CD Micro System MC155/21/22/25/30

Service
Service
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Service Manual

COMPACT disc DIGITAL AUDIO

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CLASS 1
LASER PRODUCT
3122 110 03420

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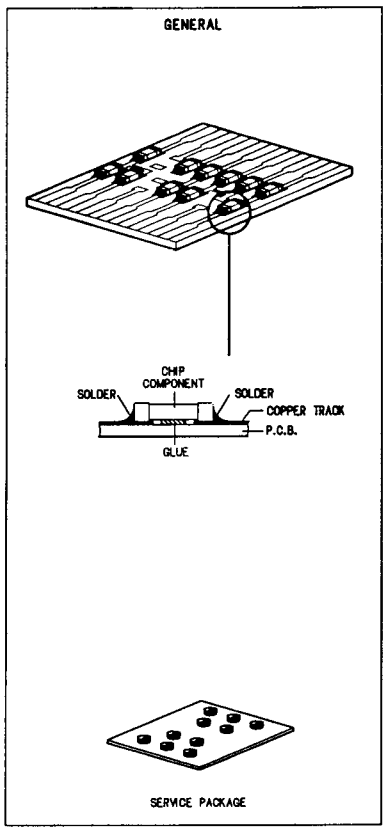
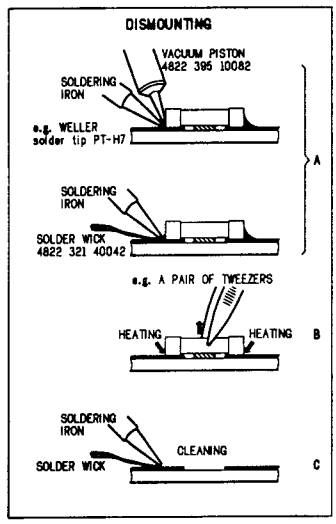
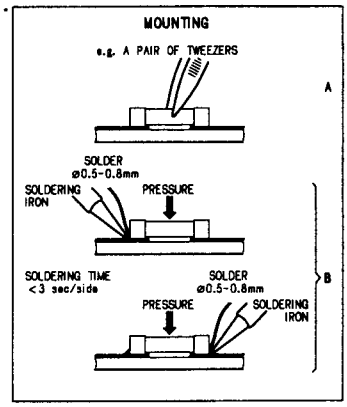
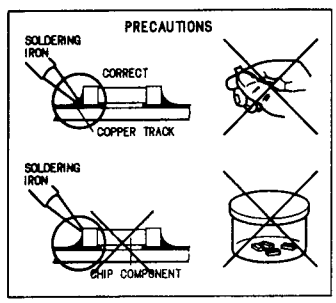
PHILIPS

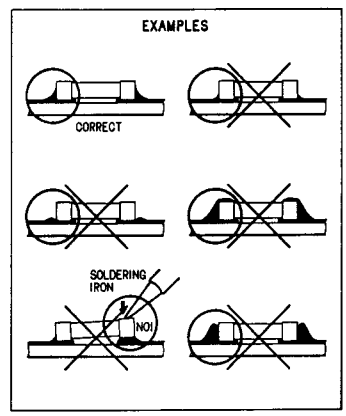
HANDLING CHIP COMPONENTS











(GB) WARNING

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools at this potential.

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévite pourrait être considérablement écourtée par le fait qu'aucune précaution nést prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfileer le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

Anti-static table mat large	1200x650x1.25mm
small	600x650x1.25mm
Anti-static wrist band	
Connection box (1MOhm)	
Extendible cable (to connect wrist band to conn. box)	
Connecting cable (to connect table mat to conn. box)	
Earth cable (to connect any product to mat or box)	
Complete kit ESD3 (combining all above products)	
Wristband tester	

(GB)
After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists.
The leakage current must not exceed 0.5mA.

(F)
"Pour votre sécurite, ces documents doivent être utilisés par des spécialistes agrées, seuls habilités à réparer votre appareil en panne".

ESD

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Sorgen Sie dafür, dab sie im Reparaturfall über ein Puls-armband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

	4822 466 10953
	4822 466 10958
	4822 395 10223
	4822 320 11307
	4822 320 11305
	4822 320 11306
	4822 320 11308
	4822 310 10671
	4822 344 13999

(GB)
Safety regulations require that the set be restored to its originial condition and that parts which are identical with those specified be used.
Safety components are marked by those symbol. ⚠

(S) Varning !

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

(DK) Advarsel !

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

(SF) Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

(NL) WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen vermindern. Zorg ervoor dat u tijdens reparatie via een polsband met wererstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparationi occorre quindi essere collegato allo stesso potenziale che quello della massa delápparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB) WARNING

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(F) ATTENTION

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

(D) WARNUNG

Bei jeder Reparatur sind die geltenden Sicherheitsvor-schriften zu beachten. Der Originaizustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Original-ersatzteile zu verwenden.

(NL) WAARSCHUWING

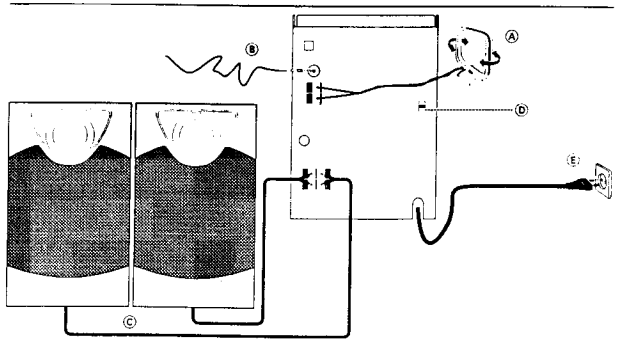
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(I) AVVERTIMENTO

Le norme di sicurezza estigono che l'apparecchio venga rimesso nelle condizioni orginali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.

PREPARATIONS

Rear Connection



Ⓐ AM Antenna Connection

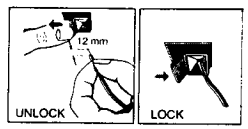
Connect the supplied loop antenna to the AM AERIAL terminal. Adjust the position of the AM loop antenna for the best reception.

Ⓑ FM Wire Antenna Connection

Connect the supplied FM wire antenna to the FM 75 Ω terminal. Adjust the position of the FM antenna for the best reception.

Outdoor Antenna
For better FM stereo reception connect an outdoor FM antenna to the FM AERIAL 75 Ω terminal using a 75 Ω antenna wire.

Ⓒ Speaker Connections



- Connect the right speaker to terminal **R**, with the red (white/black) wire to + and the black wire to −.
- Connect the left speaker to terminal **L**, with the red (white/black) wire to + and the black wire to −.
- Clip the stripped portion of the wire as shown.

Ⓓ Adjusting the Operating Voltage

(for specific versions only)

Before connecting the AC power cord to a wall outlet, make sure that the voltage selector at the rear of the system is set to the local power line voltage. If not, reset the selector before connecting to the wall outlet.

Ⓔ AC Power Supply

After all other connections have been made, connect the AC power cord to the wall outlet.

REMOTE CONTROL

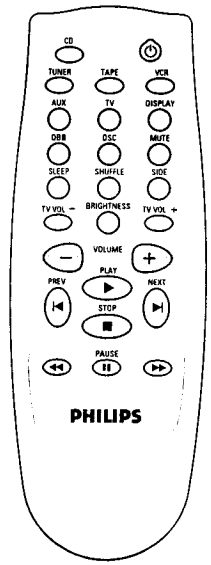
Remote Control Functions

- First select the source you wish to control by pressing one of the source selection keys on the remote control (e.g. CD, TUNER or TAPE).
- Then select the desired function (PLAY, NEXT, etc.).

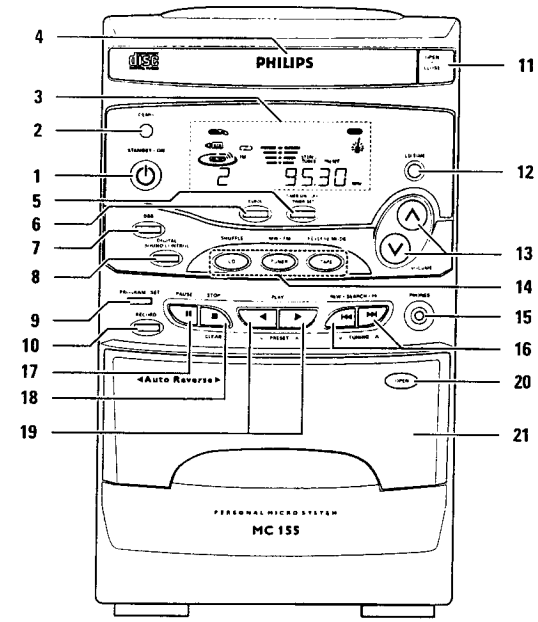
Note:
- *Whenever a remote control button is pressed, the red LED on the set will flicker. This indicates the remote control signal is received by the set.*

⏻ ..... to switch the unit to standby mode.
CD ..... to select CD mode.
TUNER ..... to select TUNER mode.
TAPE ..... to select TAPE mode.
VCR ..... to select VCR mode.
AUX ..... not functional for this model.
TV ..... to select TV mode.
DISPLAY ..... to display CD time.
DBB ..... to switch on or off dynamic bass boost.
DSC ..... to select digital sound control: OPTIMAL, JAZZ, CLASSIC, ROCK or POP.
MUTE ..... to switch off the sound temporarily
SLEEP ..... to switch the set to standby mode automatically at a preset time.
SHUFFLE ..... to play CD tracks at random.
SIDE ..... to select side A or B in TAPE mode.
BRIGHTNESS .... not functional for this model.
TV VOLUME +/− ....to adjust the TV (RC 5 code) volume.
VOLUME +/− ...to adjust the volume.
PLAY ▶ ..... to start playback in CD or TAPE mode.
STOP ■ ..... to stop playback in CD or TAPE mode.

⏮ PREV. / NEXT ⏭
for TUNER .... to select a lower/higher tuner preset station.
for CD ..... to select previous/next CD track.
for TV/VCR .... to select previous/next channel.
PAUSE ⏸ ..... to interrupt play in CD or TAPE mode.
◀◀ / ▶▶
for TUNER .... to select a lower/higher frequency.
for CD ..... to search for a particular passage.
for TAPE ..... to fast rewind/forward the cassette.



CONTROLS

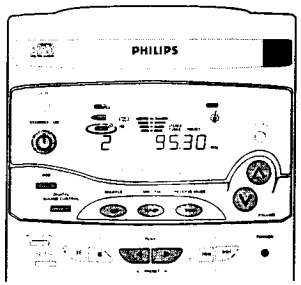


Front View

1 STANDBY•ON
– to switch the set on or to standby mode.
2 DEMO
– to display the various features offered by the system.
3 DISPLAY
– to display the current setting of the set.
4 CD TRAY
– to place CD in here.
5 TIMER ON•OFF / TIMER SET
– to set the timer and to switch the timer on or off.
6 CLOCK
– to display and set the clock
7 DYNAMIC BASS BOOST (DBB)
– to switch on bass boost to enhance bass response or to switch off bass boost.
8 DIGITAL SOUND CONTROL (DSC)
– to select the desired sound effect: OPTIMAL, JAZZ, CLASSIC, ROCK and POP.
9 PROGRAM / SET
– to program CD tracks in CD mode.
– to program preset stations manually
10 RECORD
– to start recording on tape deck.
11 OPEN•CLOSE
– to open or close the CD tray.
12 CD TIME
for CD ..... to display the current play time, current track remain play time and total remaining play time, in turn.
13 VOLUME
– to adjust the volume level.

14 SOURCE : to select the following:
CD/SHUFFLE
– to switch to CD mode. When in CD mode; to play all the tracks in random order.
TUNER/BAND
– to switch to TUNER mode. When in tuner mode; to select the waveband: FM or MW.
TAPE/REVERSE MODE
– to switch to TAPE mode. When in TAPE mode; to select the different play mode.
15 PHONES
– headphones jack.
16 ⏮◀ SEARCH ▶⏭
for CD ..... to skip to the beginning of the current or previous/next track or to search backward/forward.
⏮◀ ▶⏭ (∨ TUNING ∧)
for TUNER .... to tune to a lower or higher radio frequency.
(REW) ⏮◀ ▶⏭ (FF)
for TAPE ..... to rewind or fast forward the cassette.
17 PAUSE ⏸
for CD ..... to interrupt or resume CD play.
for TAPE ..... to interrupt playback or recording.
18 STOP ■ (CLEAR)
for CD ..... to stop CD play or to clear a program.
for TAPE ..... to stop playback or recording.
19 PLAY ▶
for CD ..... to start playback.
◀ ▶(∨ PRESET ∧)
for TUNER .... to select a preset radio station in memory.
◀ PLAY ▶
for TAPE ..... to select and play tape side A or B.
20 OPEN
– to open the cassette compartment.
21 CASSETTE DECK

OPERATING THE SYSTEM



Important:
Before you begin operating the system, complete the preparation procedures. The set is in the standby mode when the mains plug is connected to **the wall socket and** "0:00" flashes on the display.

Switching the system ON

- Press **STANDBY•ON, CD, TUNER** or **TAPE** on the set (or **CD, TUNER** or **TAPE** on the remote control).

You can also switch on the system directly by pressing the **PRESET** ∧ or ∨ for TUNER mode; **OPEN•CLOSE** button or **PLAY** ▶ for CD mode or **PLAY** ◀ ▶ for **TAPE** mode.

Switching the system to standby mode

- Press **STANDBY•ON** again (or ⏻ on the remote control).

Selecting the Sound Source

- Press either **CD, TUNER** or **TAPE** on the set or on the remote control.
  → The display indicates the selected sound source.

Volume Adjustment

Press **VOLUME** ∧ or ∨ (or press **VOLUME** + or − on the remote control) to increase or decrease the sound level.

For Personal Listening
Connect the headphones to the **PHONES** socket at the front of the set. The speakers will be muted.

Digital Sound Control (DSC)

- Press **DSC** on the set or remote control to select the desired special sound effect : **JAZZ** (🎷), **CLASSIC** (🎻), **ROCK** (🎸), **POP** (🎤) or **OPTIMAL**.
  → The respective sound flag lights up except for OPTIMAL setting.
  → The DSC button changes to green except for OPTIMAL setting.

Dynamic Bass Boost (DBB)

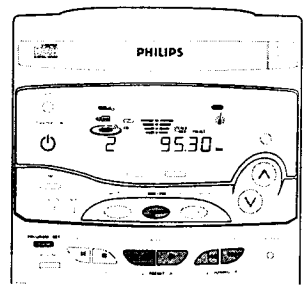
- Press **DBB** on the set or remote control to enhance the bass response.
  → The DBB flag (DBB) lights up and the DBB button changes to red colour.

Demo mode

The system has a demonstration mode that shows the various features offered by the system.

- Press **DEMO** to switch on the demonstration.
  → The display will show "HELLO WELCOME TO THE RADIO WORLD" and followed by the various features.
- Press **DEMO** again or **STANDBY•ON** to stop the demonstration mode.
  → "GOODBYE" is displayed and the set returns to standby mode.

TUNER



Tuning to radio stations

1 Press **TUNER** on the set or remote control to select TUNER mode.
2 Press **TUNER** (MW•FM) (or **TUNER** on the remote control) again to select the desired waveband: MW or FM.
3 Press **TUNING** ∧ or ∨ (◀◀ or ▶▶ on the remote control) for more than one second.
  → The display will search the frequency until a station with sufficient signal strength is found.
  → The STEREO TUNED or TUNED flag will lights up.
- Repeat this procedure until the desired station is reached.

- To tune to a weak station, briefly press **TUNING** ∧ or ∨ (◀◀ or ▶▶ on the remote control) until the display shows the right frequency and/or when the best reception has been obtained.

Storing Preset Stations

You can store up to 20 stations in the FM Band and 10 stations in the AM Band in the memory. When a preset station is selected, the preset number appears next to the frequency on the display.

You can only do manual programming in this set
1 Press **TUNER** on the set or remote control to select TUNER mode.
2 Press **TUNER** (MW•FM) again to select the desired waveband: MW or FM.
3 Press **TUNING** ∧ or ∨ for more than one second to tune to the desired frequency.
4 Press **PROGRAM/SET** for less than 1 **second.**
  → The PRESET flag flashes on the **display.**
5 Press **PRESET** ∧ or ∨ to select a **preset number.**
  → The preset number flashes on the **display.**
6 Press **PROGRAM/SET** again.
  → The station and **the preset number are stored and** "STORED" is displayed.

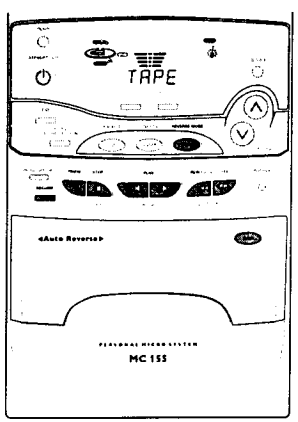
- Repeat the above procedure **to store other preset** stations.

Note:
– ***When a power interruption occurs, the preset stations memory will remains for at least one hour before it is erased.***

Tuning to Preset Stations

- **Press PRESET** ∧ or ∨ (or **PREV** |◀◀ or **NEXT** ▶▶| on the remote control) to select the desired preset number.
  → The preset number, frequency and waveband appear on the display.

CASSETTE DECK



Loading a cassette

- Press **OPEN**.
- The cassette compartment door opens.
- Load the cassette with the open side downward and the full spool to the left.
- Close the cassette compartment door.
  → The deck automatically selects the tape type (NORMAL or CHROME (CrO_2)).

Tape Playback

1 Press **TAPE** on the set or on the remote control to select TAPE mode.
2 Load the cassette into the **tape deck.**
3 Press **PLAY** ▶ on the set or remote control to start playback on side A.
  → "SIDE A PLAY" scrolls across the display.
- Press **PLAY** ◀ (or first press **SIDE** then press **PLAY** ▶ on the remote control) to start playback on side B.
  → "SIDE B PLAY" scrolls across the display.
4 Press **STOP** ■ on the set or remote control to end playback.
  → "STOP" scrolls across the display.

Fast Forward/Rewinding

1 You can rewind or fast forward the cassette by pressing |◀◀ or ▶▶| (◀◀ or ▶▶ on the remote control) when the cassette is at the stop mode.
  → " ⟪ or ⟫ " scrolls across the display depending on which button is pressed.
  → The cassette will stop automatically at the end of the rewinding or fast forward.
2 Press **STOP** ■ to stop fast forwarding or rewinding.
  → "STOP" scrolls across the display.

Fast Forward/Rewinding during playback
- Press and hold **SEARCH** |◀◀ or ▶▶| (◀◀ or ▶▶ on the remote control) until the desired passage is located. Play returns to normal when **SEARCH** |◀◀ or ▶▶| is released.

Continuous Playback

The **REVERSE MODE** (or **SIDE** on the remote control) enables you to select the different play modes.

⇄ : recording or playback on one side of the cassette in the normal or reverse direction. The cassette stops at the end of one side.

⇉ : recording or playback on both sides of the cassette; first in one direction and then in the reverse direction. The cassette then stops.

🔁 : continuous playback on both sides of the cassette up to a maximum of 5 times per side until you press **STOP** ■.

Recording

1 Select **TUNER**.
2 Load a blank cassette into **tape deck.**
3 Press **RECORD** to start recording.
  → "RECORD" is displayed.
  → The RECORD flag is displayed.
- Press **PAUSE** ❚❚ on the set or remote control to interrupt the recording.
  → "PAUSE" is displayed.
- Press **PAUSE** ❚❚ again to resume the recording
  → "RECORD" is displayed.
4 Press **STOP** ■ on the set or remote control to stop recording.
  → "STOP" scrolls across the display.

Notes:
1. Only ⇄ or ⇉ mode is available during recording.
2. For CD Synchro-start recording see Compact Disc section on CD Recording.

Changing the FM/MW tuning grid

(for specific versions only)

The frequency step can be changed if necessary. In North and South America, the frequency step between adjacent channels in the FM/MW band is 100 kHz/10 kHz. In other parts of the world, it is 50 kHz/9 kHz. The frequency step presetted in the factory is 9 KHz.

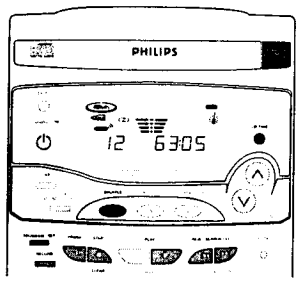
For FM Band : change from 50 kHz to 100 kHz or vice versa
For MW Band : change from 9 kHz to 10 kHz or vice versa

Changing of tuning grid will erase all previously stored preset stations.

Change to 9 kHz or 10 kHz
1 Switch the unit to standby mode and disconnect the unit from the AC power supply (pull out the AC power cord).
2 Keep **STANDBY** and **VOLUME** ∧ depressed, while reconnecting the system to the AC power supply again.
  → Display briefly shows "9 KHZ" or "10 KHZ".

Note:
– *GRID 9 indicates that the tuning grid is in step of 50 kHz in FM band and 9 kHz in MW band.*
GRID 10 indicates that the tuning grid is in step of 100 kHz in FM band and 10 kHz in MW band.

COMPACT DISC



Warning!

1) This set is designed for conventional CDs. Do not use any accessories like disc stabilizer rings or CD treatment sheets, etc., which may damage the CD mechanism.
2) Do not load more than one disc into the tray.

In addition to the conventional 12-cm disc, 8-cm discs can be used without an adaptor.

Loading the CD

1 Press **CD** on the set or remote control to select CD mode.
2 Press **OPEN•CLOSE**.
→ The CD compartment slides out.
3 Load a disc with the ***printed side up***.
4 Press **OPEN•CLOSE** to close the CD compartment.
→ The total number of tracks and the playing time of the disc will appear on the display.

Playing a Disc

1 Press **PLAY ▶** on the set or remote control to start playback.
→ "CD PLAY" scrolls across the display.
→ The track number and elapsed playing time of the current track appear on the display.
- To interrupt play, press **PAUSE ❚❚** on the set or remote control.
→ "PAUSE" is displayed briefly.
→ The playing time flashes.
- To resume play, press **PAUSE ❚❚** again or **PLAY ▶** on the set or remote control.

2 To stop play, press **STOP ■** on the set or remote control.
→ "STOP" scrolls across the display.

Note:
– *The CD will play through once and then stop.*

Changing the display mode during play
You can change to a different type of time display when the CD is playing.

- Press **CD TIME** (or **DISPLAY** on the remote control) to cycle to the various time display modes.
→ The display will shows : ELAPSED PLAYING TIME OF THE CURRENT TRACK → REMAINING PLAYING TIME OF THE CURRENT TRACK → REMAINING PLAYING TIME OF CD → ...

Selecting a desired track

Selecting a desired track when playback is stopped
1 Press **I◀◀** or **▶▶I** (**PREV I◀** or **NEXT ▶I** on the remote control) until the desired track appears on the display.
2 Press **PLAY ▶** on the set or remote control to start playback.
→ The selected track number and elapsed playing time appear on the display.

Selecting a desired track during playback
1 Press **I◀◀** or **▶▶I** (or **PREV I◀** or **NEXT ▶I** on the remote control) until the desired track appears on the display.
→ The selected track number and elapsed playing time appear on the display.
- If you press **I◀◀** once it will skip to the beginning of the current track and play the track again.

Searching for a particular passage during play

- Press and hold **SEARCH I◀◀** or **▶▶I** (or **◀◀** / **▶▶** on the remote control) until the desired passage is located. During the search, the sound is played faster than normal at a reduced volume. Play returns to normal when **SEARCH I◀◀** or **▶▶I** is released.

Shuffle

SHUFFLE – playing all the tracks in random order. It can also be used during program mode.

To shuffle all the tracks
1 Press **CD** (SHUFFLE), (or **SHUFFLE** on the remote control).
→ "SHUFFLE" scrolls across the display.
→ The SHUFFLE flag and the track selected at random appear on the display.
- The tracks will now be played in random order until you press **STOP ■** or all the tracks have been played once.

2 Press **CD** (SHUFFLE) again to resume normal play.
→ The SHUFFLE flag disappears from the display.

Programming Tracks

Programming tracks of a loaded CD is possible when CD playback is stopped. The display will indicate the total tracks stored in the program. Up to 20 tracks can be stored in the memory in any order. When 20 tracks are stored and you attempt to store another track, the display will show "PROGRAM FULL".

1 Load the desired disc in the disc tray.
2 Press **I◀◀** or **▶▶I** (or **PREV I◀** or **NEXT ▶I** on the remote control) to select the desired track.
3 Press **PROGRAM/SET** to store the track.
- Repeat steps **2** to **3** to store other tracks.

Playing the program
1 Press **PLAY ▶** on the set or remote control to start program playback.
→ "PROGRAM PLAY" scrolls across the display.
→ The track number and elapsed playing time of the current track appear on the display.
2 Press **STOP ■** on the set or remote control to stop program playback.

Erasing the program (when playback is stopped)
- Press **STOP ■** on the set or remote control.
→ The last stored track is erased.
→ "CLEARED" appears on the display.
- Press and hold **STOP ■** on the set or remote control for 2 seconds.
→ All the program tracks are erased.
→ "PROGRAM CLEARED" appears on the display.

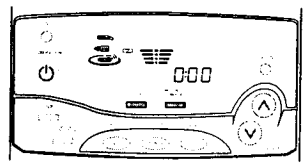
Note:
– *The program is also erased when the set is disconnected from the power supply or the CD tray is opened.*

CD Recording (ONE TOUCH RECORDING)

1 Press **CD** on the set or remote control to select CD mode.
2 Load a blank cassette into **tape deck**.
3 Load the desired disc in the disc tray.
4 Press **RECORD** to start recording.
→ "ONE TOUCH RECORD" scrolls across the display.
→ The RECORD flag is displayed.
→ CD playback will begin automatically after skipping the leader tape portion at the beginning of the cassette.
- You can program the tracks in the order you want them to be recorded (see Programming Tracks).
→ "ONE TOUCH PROGRAM RECORD" appears on the display.

5 Press **STOP ■** on the set or remote control to stop recording.

CLOCK / TIME SETTING



Setting the clock

The clock is in 24-hour mode, e.g. 0:00 or 23:59.

1 Press **STANDBY•ON** to switch on the set.
2 Press **CLOCK**.
→ The display will show "0:00" and "0" flashes.
3 Set the hour with **◀** or **▶**.
4 To set the minute, press **I◀◀** or **▶▶I**.
→ The display will show "0:00" and "00" flashes.
5 Set the minute with **◀** or **▶**.
6 Press **CLOCK** again to store the setting.
→ The clock starts running.

Notes:
– *When a power interruption occurs, the clock settings are erased.*

Setting the Timer

- **The timer will only activate when the set is in the standby mode. If the set is switched on, the timer function will not be activated.**
- The system can switch on to TUNER, CD, TAPE or REC TU mode automatically at a preset time. It can serve as an alarm to wake you up.
- Before setting the timer, make sure the clock is set correctly.
- The timer works only once for each setting.
- **The volume of the timer will be at the last setting before the set is switched to standby mode.**

Timer Setting

1 Press **STANDBY•ON** to switch on the set.
2 Press **TIMER SET** and hold for 2 seconds.
→ The TIMER flag flashes.
3 Press **◀** or **▶** to select the desired source.
→ The display will switch as follows:
TUNER → CD → TAPE → REC TU → TUNER ...

If you select TUNER ...
- Select the desired waveband (MW or FM) first then press **PRESET ∧** or **∨** to select the preset station.
- Then, continue with steps 4 to 8.

If you select CD ...
- Track 1 will be selected and play back automatically at the preset time.
- Then, continue with steps 4 to 8.

If you select TAPE ...
- The cassette will playback automatically at the preset time.
- Then, continue with steps 4 to 8.

If you select REC TU ...
- A blank cassette has to be insert into the cassette compartment.
- Press **PRESET ∧** or **∨** to select the preset station to be recorded.
- Then, continue with steps 4 to 12.

4 Press **TIMER SET** to confirm your source selection.
→ "START" is displayed.
→ The display will show "0:00" and "0" flashes.
5 Press **◀** or **▶** to set the hour for the timer to start.
6 Press **I◀◀** or **▶▶I** to switch to the minute mode.
7 Press **◀** or **▶** to set the minutes for the timer to start.
8 Press **TIMER SET** to store the start time.
For REC TU mode, continue to adjust the stop time.
→ "STOP" is displayed.
→ The display will show "0:00" and "00" flashes.
9 Press **◀** or **▶** to set the hour for the timer to stop.
10 Press **I◀◀** or **▶▶I** to switch to the minute mode.
11 Press **◀** or **▶** to set the minutes for the timer to stop.
12 Press **TIMER SET** to store the stop time.
→ The TIMER is now set.
→ The TIMER flag remains lit.

To stop the TIMER
- Press **TIMER ON•OFF** on the set.
→ The TIMER flag disappears from display.

To start the TIMER again
- Press **TIMER ON•OFF** on the set.
→ The TIMER flag light up.

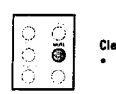
Note:
– *The timer setting program will exit automatically after 5 seconds if there is no further action on the set.*

OTHER FEATURES

Mute

This feature allows you to temporarily switch off the sound of the system without switching off the set when you require a moment of silence.

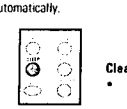
- Press **MUTE** on the remote control to switch off the sound.
→ "MUTE" is displayed.
- Press **MUTE** again on the remote control to switch on the sound.



Sleep

This feature allows you to select a time after which the system will switch to the standby mode automatically.

- Press **SLEEP** on the remote control repeatedly to cycle through the sleep timer mode.
→ "SLEEP" and the SLEEP flag are displayed.
→ The timer for selection is as follows:
120 MIN → 90 MIN → 60 MIN → 45 MIN → 30 MIN → 15 MIN → 5 MIN → OFF → 120 MIN ...
- Select the sleep time you desire.



When the sleep timer is switched on, to check the remaining time before the set switches to standby mode

- Press **SLEEP** once.
→ The remaining time will scroll through the display.

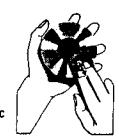
To switch off the sleep timer mode.
- Press **SLEEP** until "OFF" is displayed or **⏻**

MAINENANCE

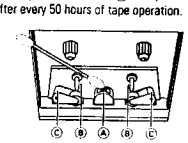
Maintenance

Cleaning the Cabinet
- Use a soft cloth slightly moistened with a mild detergent solution. Do not use a solution containing alcohol, spirits, ammonia or abrasives.

Cleaning Discs
- When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the center out.
- Do not use solvents such as benzine, thinner, commercially available cleaners, or anti-static spray intended for analog records.



Cleaning the Heads and the Tape Paths
- To ensure good recording and playback quality, clean the head (Ⓐ), the capstan(s) (Ⓑ), and pressure roller(s) (Ⓒ) after every 50 hours of tape operation.



- Use a cotton swab slightly moistened with cleaning fluid or alcohol.

Demagnetizing the heads
- Use a demagnetizing cassette available at your dealer.

SPECIFICATIONS

Specifications

AMPLIFIER
Output power ..... 300 W PMPO
2 x 15 W RMS (± 10% THD, 4Ω, 1 kHz)
Power band width ..... 20 - 20000 Hz
Frequency response ..... 20 - 20000 Hz
Signal-to-noise ratio ..... ≥ 80 dB (IEC)
Stereo separation ..... ≥ 55 dB (1 kHz)
Loudspeakers ..... ≥ 4 Ω
Headphones ..... 32 Ω - 1000 Ω

TUNER
FM wave range ..... 87.5 - 108 MHz
MW wave range
9 kHz Grid ..... 531 - 1602 kHz
10 kHz Grid ..... 530 - 1710 kHz
Sensitivity at 75 Ω, 26 dB S/N ratio, FM mono ... 2.5 µV
FM Frequency response ..... 63 - 15000 Hz (±3 dB)
Signal-to-noise ratio ..... ≥ 54 dBA

CD PLAYER
Frequency range ..... 20 - 20000 Hz
Signal-to-noise ..... ≥ 80 dB
Channel separation ..... ≥ 60 dB
Total harmonic distortion ..... ≤ 0.3%

CASSETTE DECK
Frequency range
CrO_2 tape (type II) ..... 80 - 15000 Hz (±2 dB)
Normal tape (type I) ..... 100 - 10000 Hz (±3 dB)
Signal-to-noise ratio (without DBB)
CrO_2 tape (type II) ..... ≥ 50 dBA
Normal tape (type I) ..... ≥ 45 dBA
Wow and flutter ..... ≤ 0.25% DIN

MAIN UNIT
Material/finish ..... Metal and polystyrene
Dimensions (w x h x d) ..... 160 x 273 x 295 (mm)
Weight ..... 5 kg approx.

SPEAKER BOX
Dimensions (w x h x d) ..... 160 x 270 x 290 (mm)
Weight ..... 5 kg approx.
Speaker woofer ..... 1 x 5.5 inch
Speaker tweeter ..... 1 x 2 inch

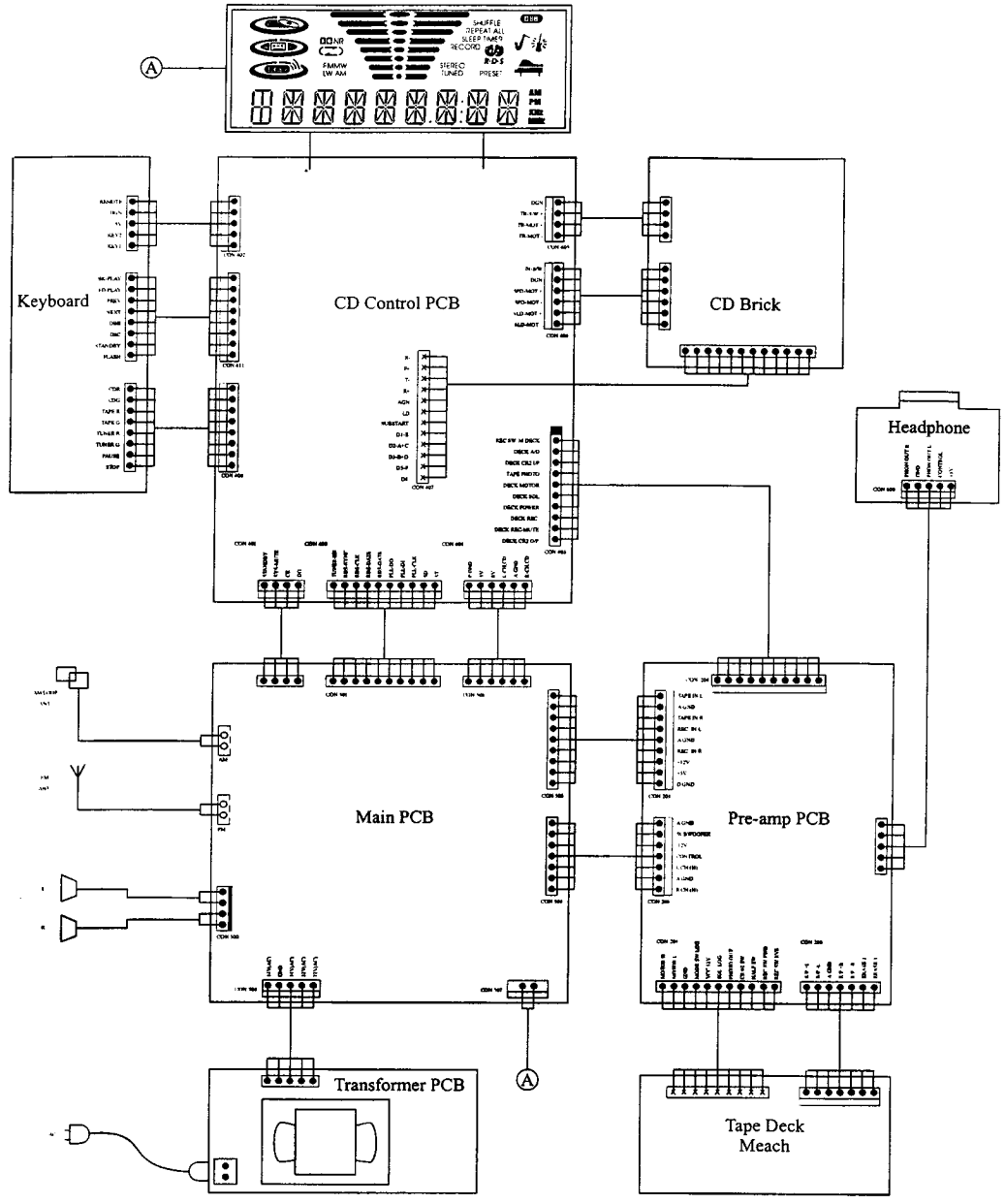
TROUBLESHOOTING GUIDE

Warning! Under no circumstances should you try to repair the set yourself, as this will invalidate the warranty.

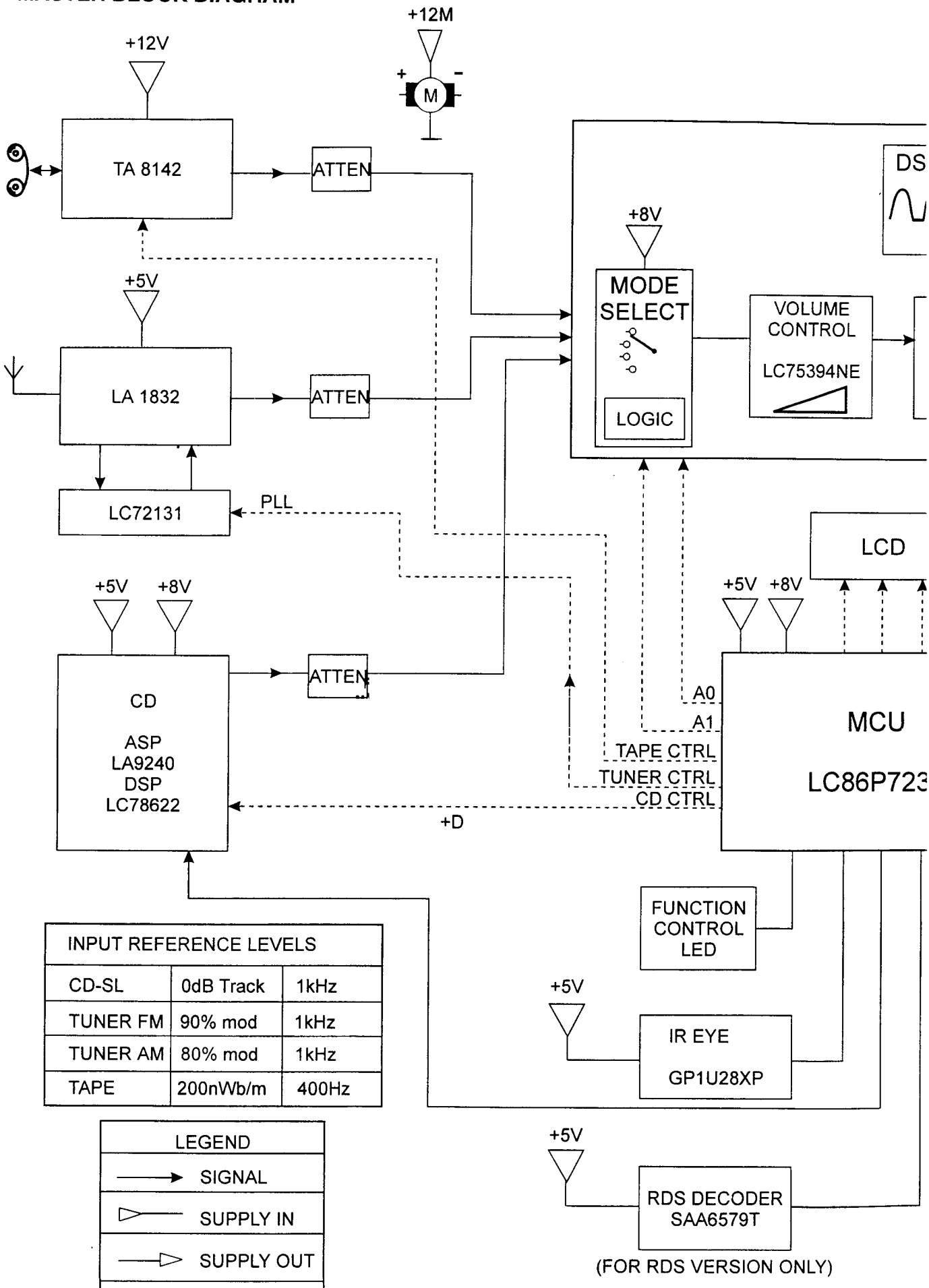
- If a fault occurs, check the points listed below before taking the set for repair.
- Should any problems persist after you have made these checks, consult your nearest dealer or service center.

SYMPTOM	POSSIBLE CAUSE	REMEDY
RADIO RECEPTION		
The STEREO indicator flashes.	The signal is too weak.	Adjust the antenna.
Severe hum or noise.	The signal strength is too weak.	Adjust the antenna.
	The TV or VCR is too close to the stereo system.	Separate the stereo system from the TV or VCR.
		Connect an external antenna for better reception.
CASSETTE DECK OPERATION		
Recording is not possible.	No cassette in the cassette deck.	Insert a blank cassette into the cassette deck.
	The protection tab has been broken.	Put a piece of clear adhesive tape over the opening.
Recording or playback cannot be made or there	Dirty tape heads.	See section on cassette deck maintenance.
is a decrease in audio level.	Magnetic build-up in the record/playback head.	Use demagnetizing cassette.
Excessive wow or flutter, or sound drop-out.	Contamination of the capstans or pressure rollers.	See section on cassette deck maintenance.
CD PLAYER OPERATION		
"NO CD" is displayed.	The disc is inserted upside down.	Place CD with printed side up.
	Moisture condensation.	Wait until lens has adjusted to normal room temperature.
	There is no disc in the CD tray.	Insert a CD.
	The CD is dirty, badly scratched or warped.	Replace or clean the CD.
GENERAL		
Set not working.	Set does not react when buttons are pressed.	Press STANDBY•ON to switch the unit off, then switch it on again. Or, unplug the AC power plug from the wall outlet, then plug it in again.
No or poor sound.	Volume is not turned up.	Adjust VOLUME.
	The headphones are connected.	Disconnect the headphones.
	Speakers are not connected or are connected	Check that the speakers are connected correctly.
	wrongly.	Make sure that the stripped speaker wire is clamped.
Reversed left and right sound.	Speakers are connected wrongly.	Check the speaker connections and speaker location.
Lack of bass sound or apparently imprecise physical location of musical instruments.	Speakers are connected wrongly.	Check the speaker connection for proper phasing, red/black wires to red/black terminals.
Clock blinking.	There was a power disruption.	Reset the clock.
Remote control has no effect on	The distance to the system is too large.	Reduce the distance.
the set.	Batteries are inserted incorrectly.	Insert the batteries correctly.
	Batteries are exhausted.	Replace the batteries.
	Wrong sound source is selected.	Select the sound source before pressing the function button (PLAY, PREV./NEXT, etc.).
Timer not working.	Timer not switched on.	Press TIMER ON•OFF on the set to switch on the timer.
	Dubbing/recording is active.	Stop dubbing/recording.
"PRESS DEMO TO EXIT" is displayed.	Demo mode is switched on.	Press STANDBY•ON or DEMO to switch off the demo.

WIRING DIAGRAM

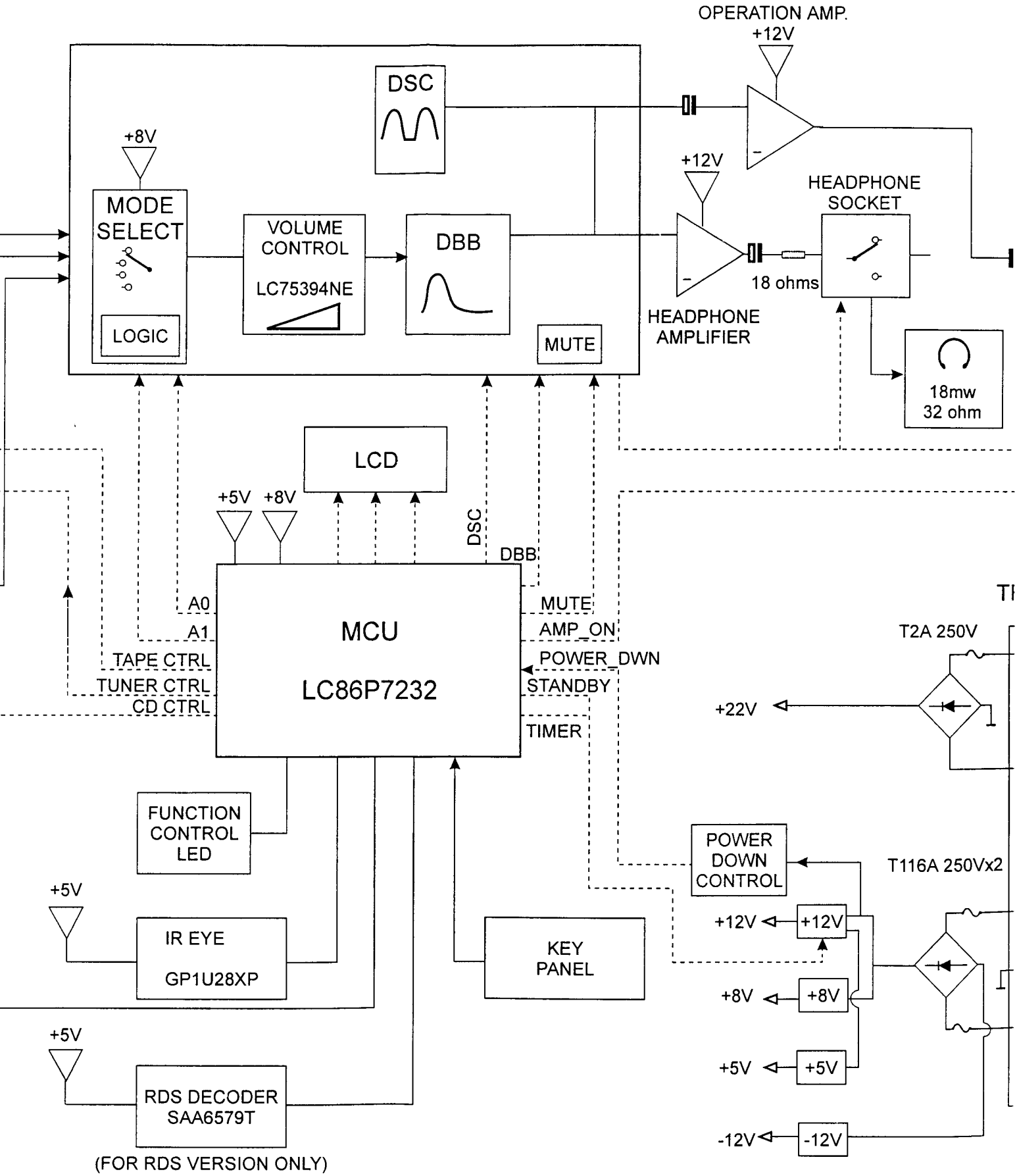


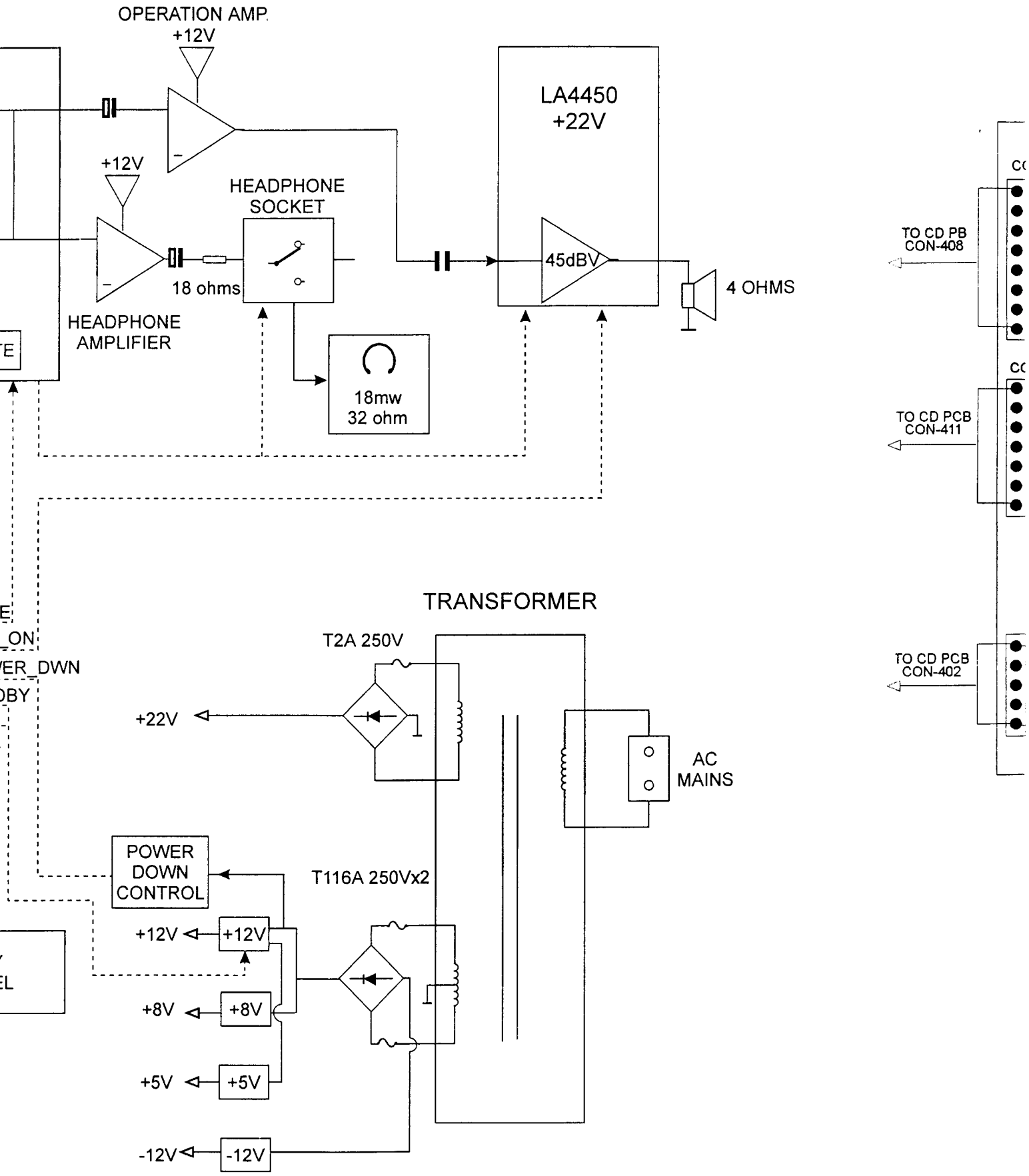
MASTER BLOCK DIAGRAM



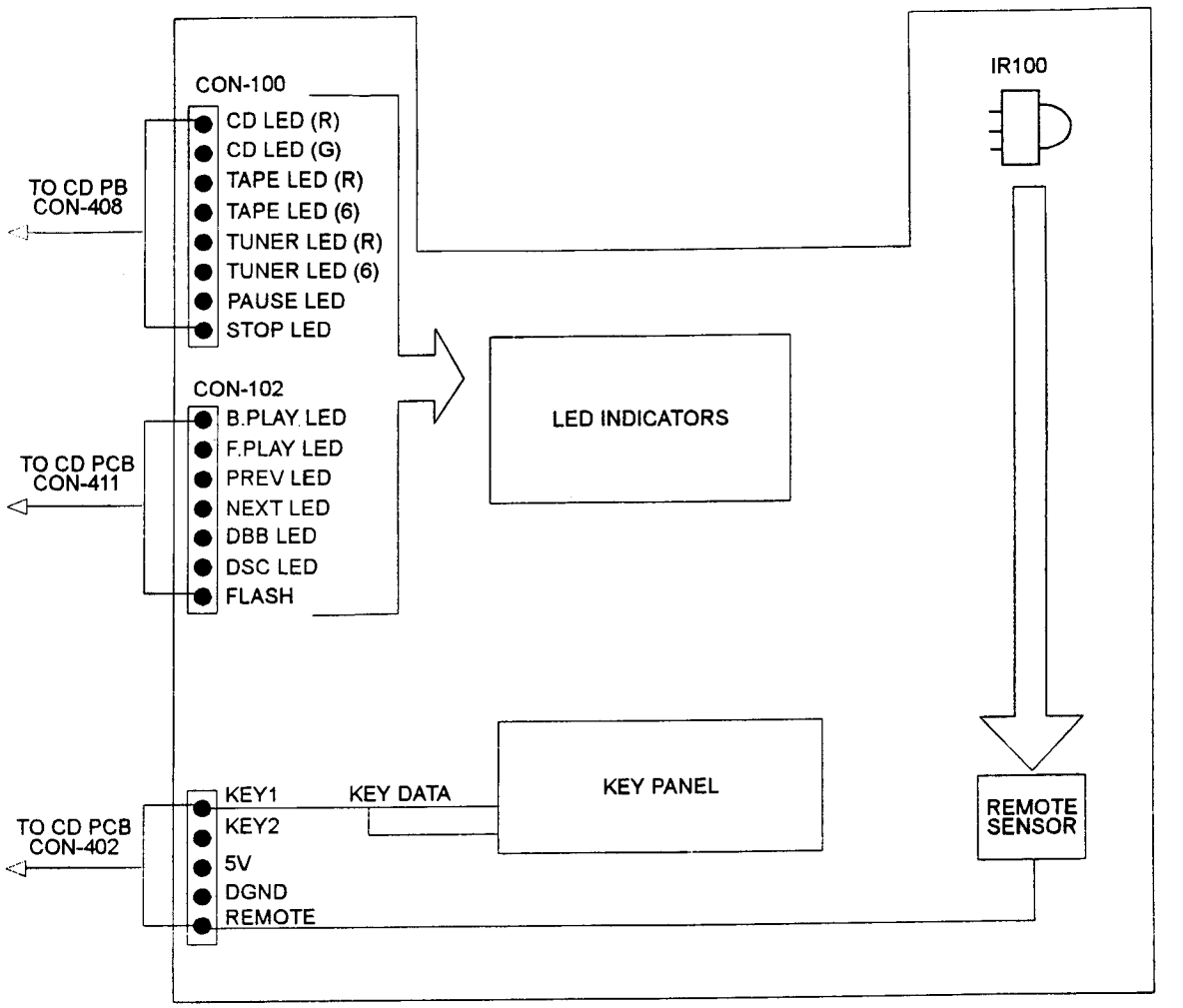
INPUT REFERENCE LEVELS		
CD-SL	0dB Track	1kHz
TUNER FM	90% mod	1kHz
TUNER AM	80% mod	1kHz
TAPE	200nWb/m	400Hz

LEGEND
SIGNAL
SUPPLY IN
SUPPLY OUT
CONTROL:

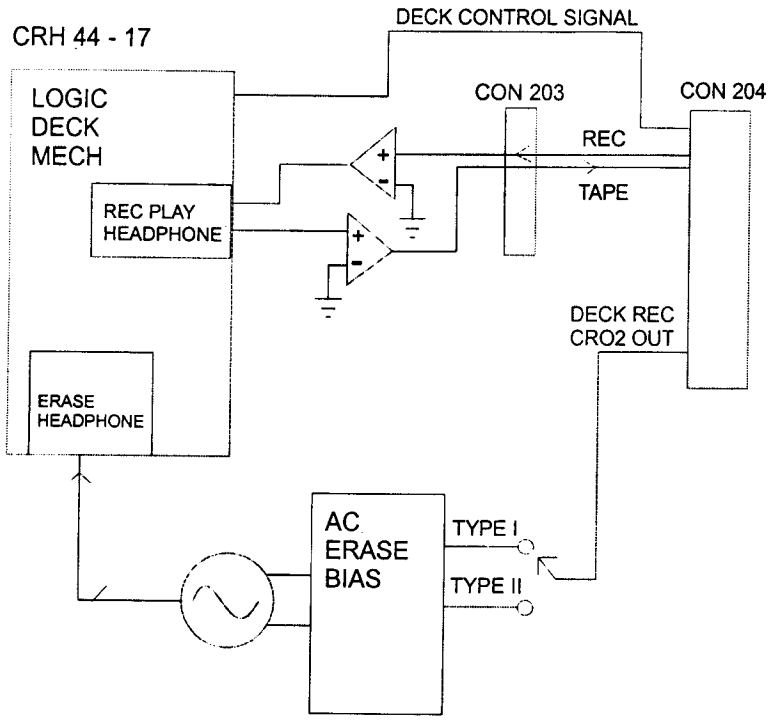

OPERATION AMP.
+12V
DSC
+8V
MODE SELECT
LOGIC
VOLUME CONTROL
LC75394NE
DBB
MUTE
+12V
HEADPHONE SOCKET
18 ohms
HEADPHONE AMPLIFIER
18mw
32 ohm
LCD
+5V
+8V
DSC
DBB
A0
A1
TAPE CTRL
TUNER CTRL
CD CTRL
MCU
LC86P7232
MUTE
AMP_ON
POWER_DWN
STANDBY
TIMER
T2A 250V
+22V
FUNCTION CONTROL LED
POWER DOWN CONTROL
T116A 250Vx2
+5V
IR EYE
GP1U28XP
KEY PANEL
+12V
+12V
+8V
+8V
+5V
+5V
-12V
-12V
+5V
RDS DECODER SAA6579T
(FOR RDS VERSION ONLY)

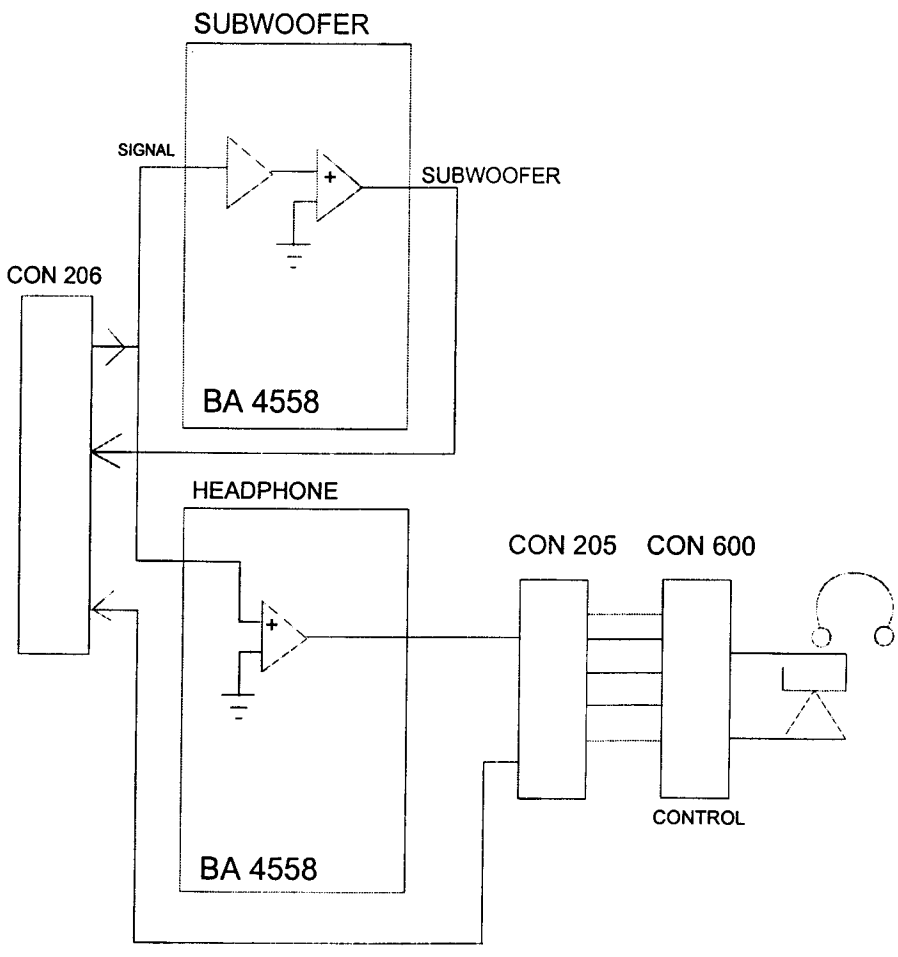

OPERATION AMP.
+12V
LA4450
+22V
+12V
HEADPHONE
SOCKET
45dBV
4 OHMS
18 ohms
HEADPHONE
AMPLIFIER
18mw
32 ohm
TO CD PB
CON-408
TO CD PCB
CON-411
TO CD PCB
CON-402
TRANSFORMER
T2A 250V
+22V
AC
MAINS
POWER
DOWN
CONTROL
T116A 250Vx2
+12V
+12V
+8V
+8V
+5V
+5V
-12V
-12V

BLOCK DIAGRAM - PANEL BOARD

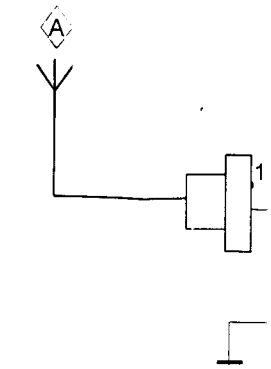


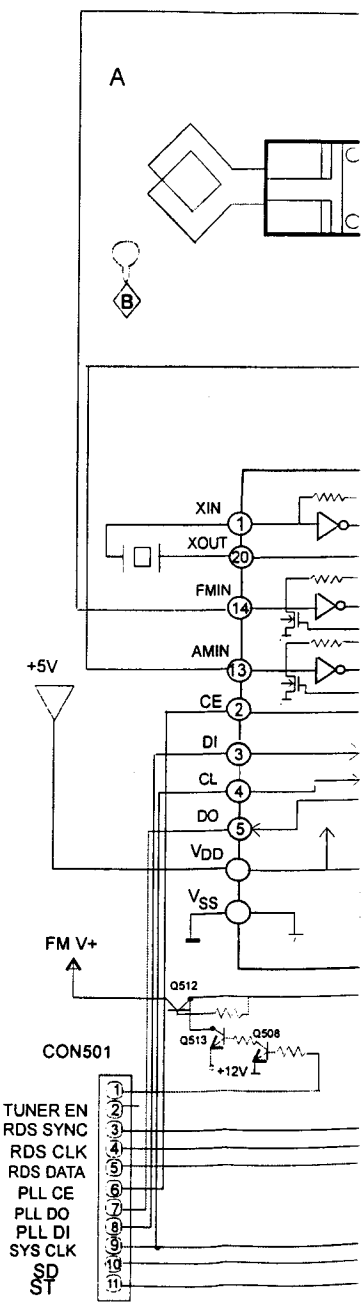
BLOCK DIAGRAM - PREAMP BOARD



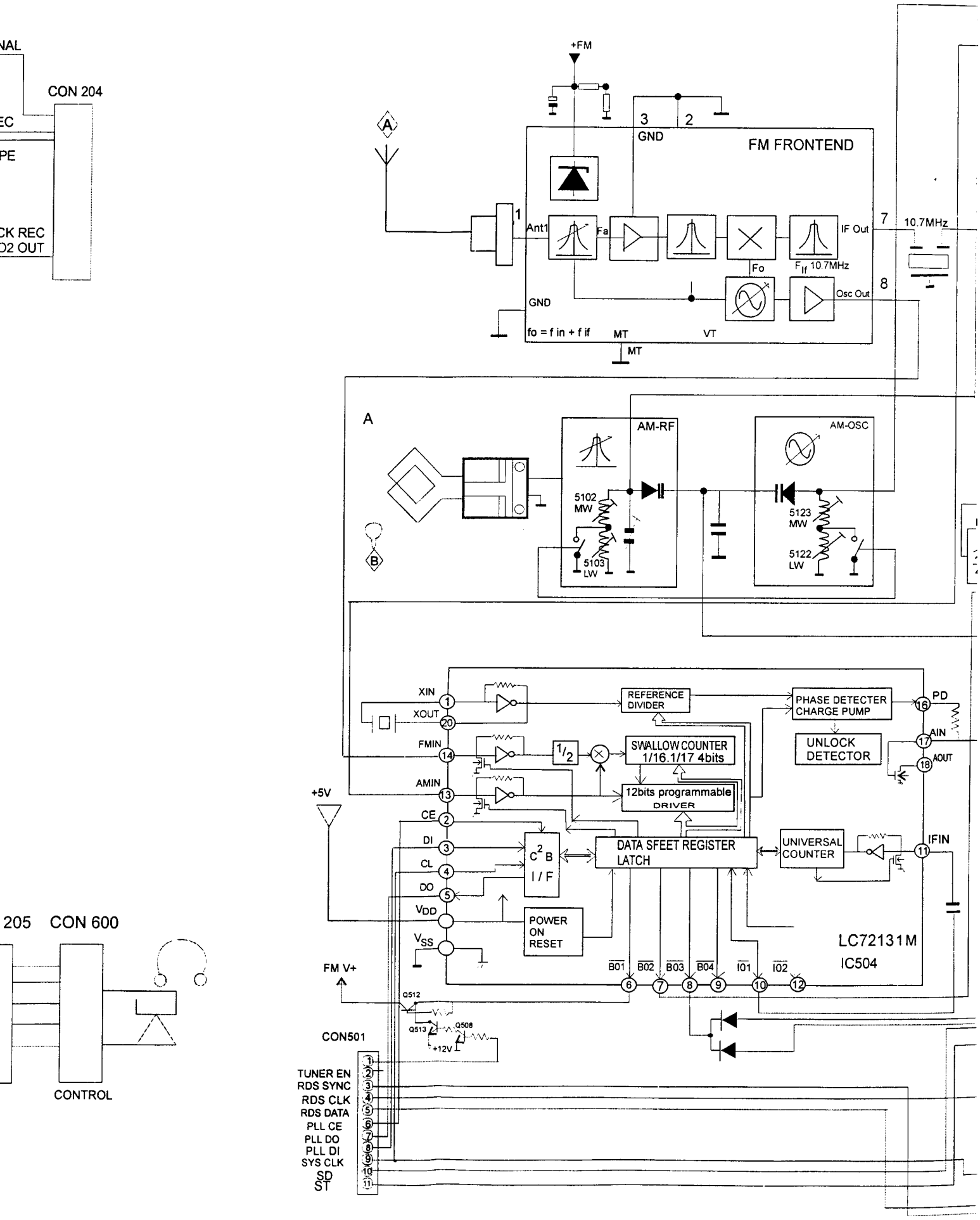


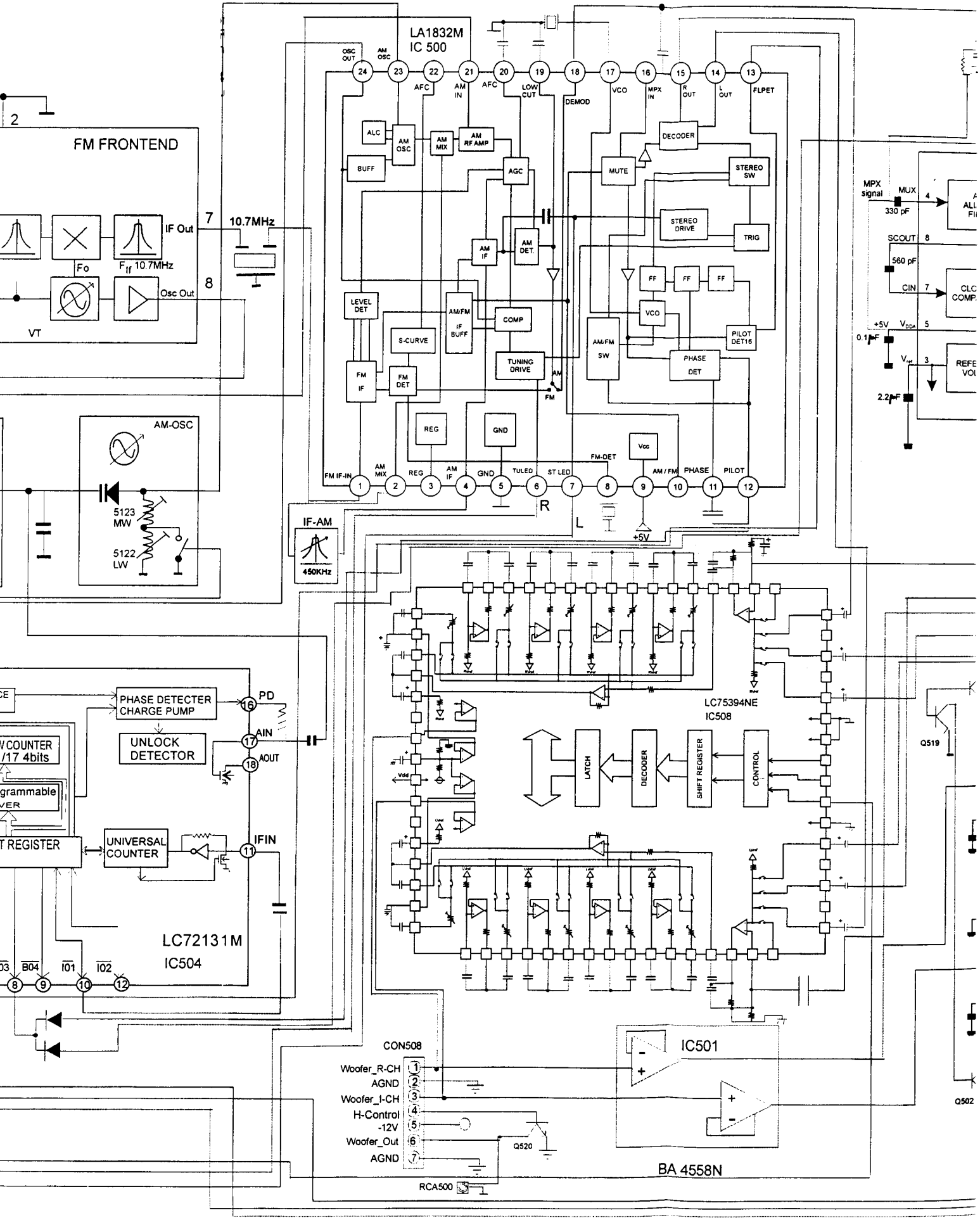
BLOCK DIAGRAM

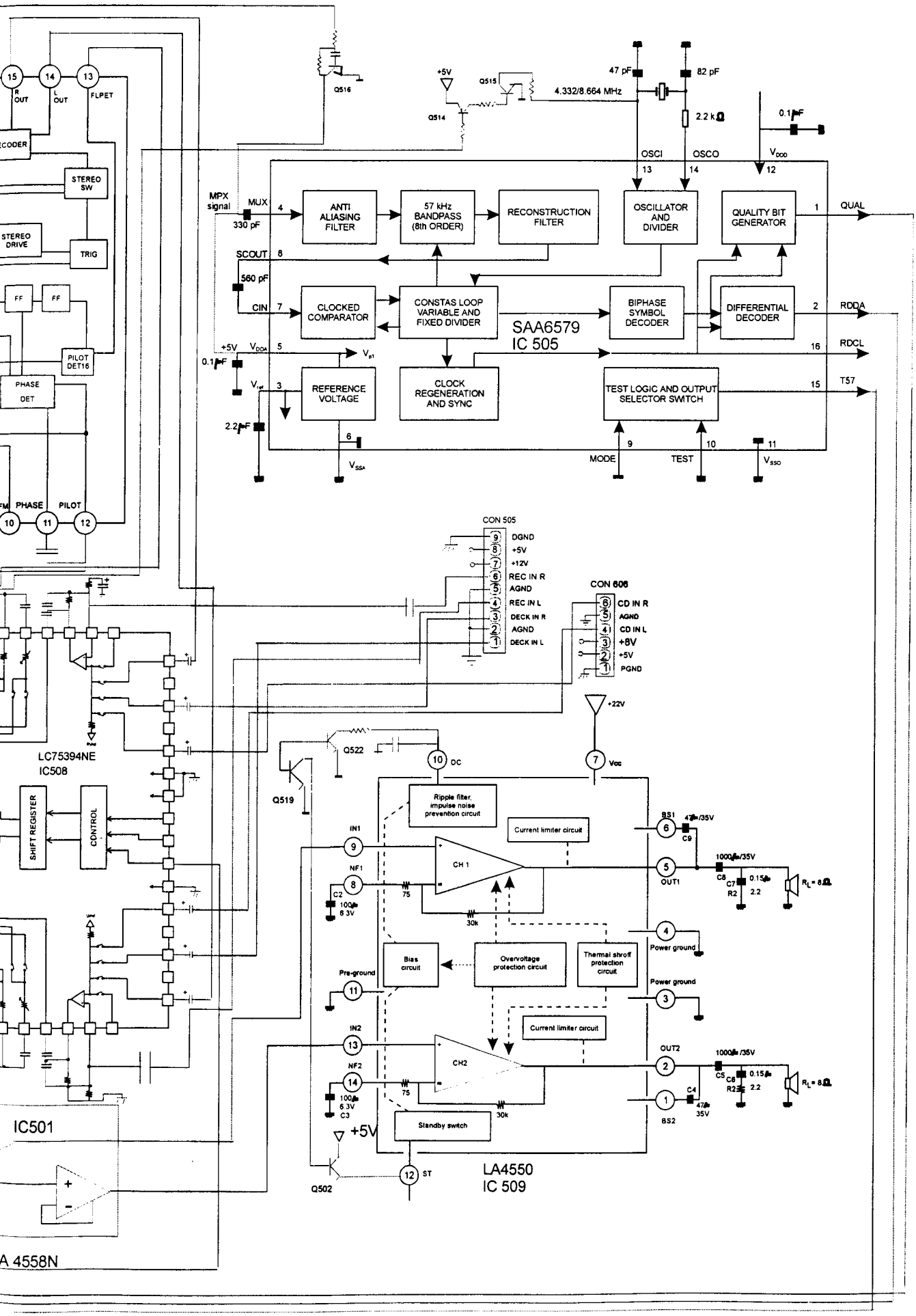




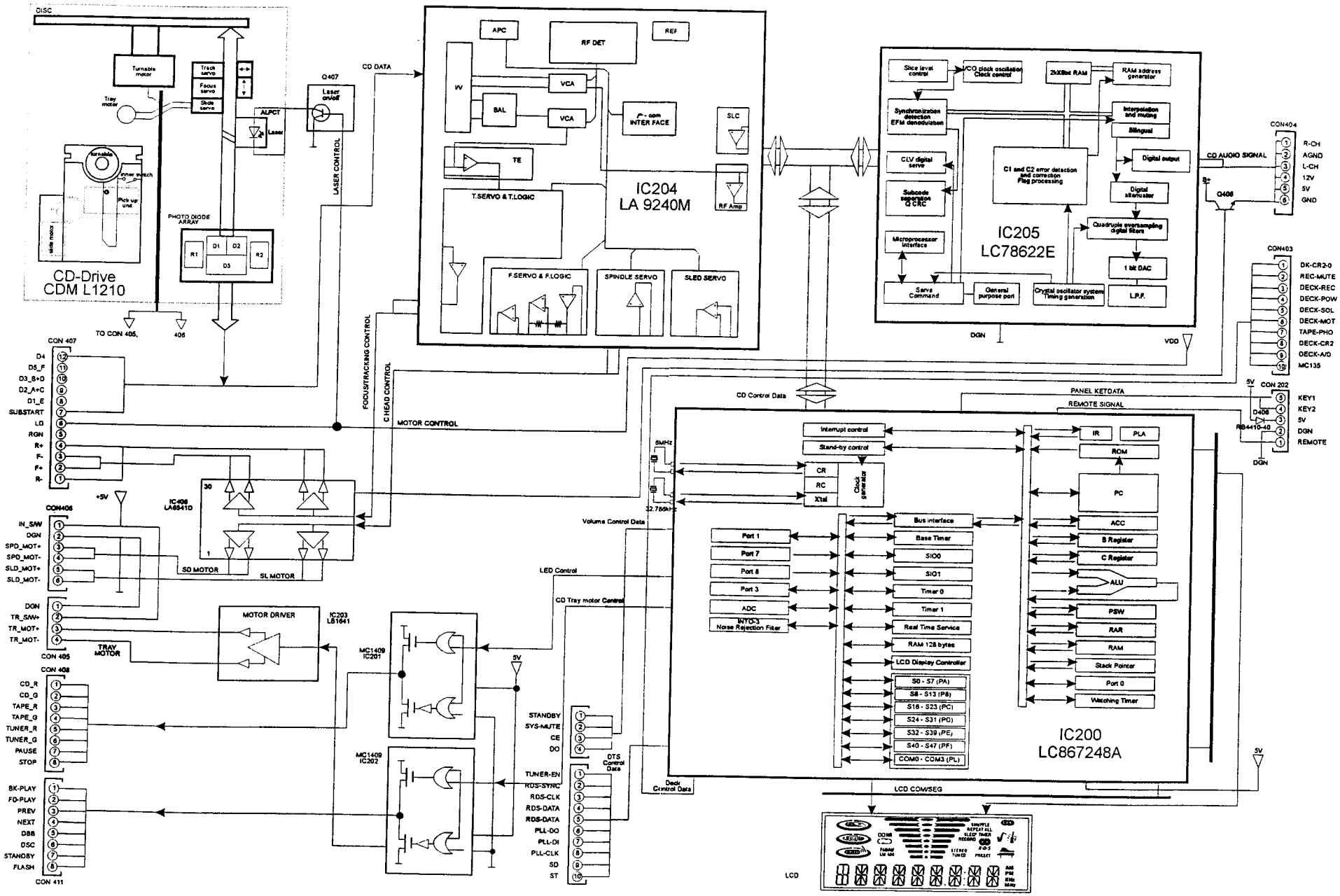
BLOCK DIAGRAM - MAIN BOARD



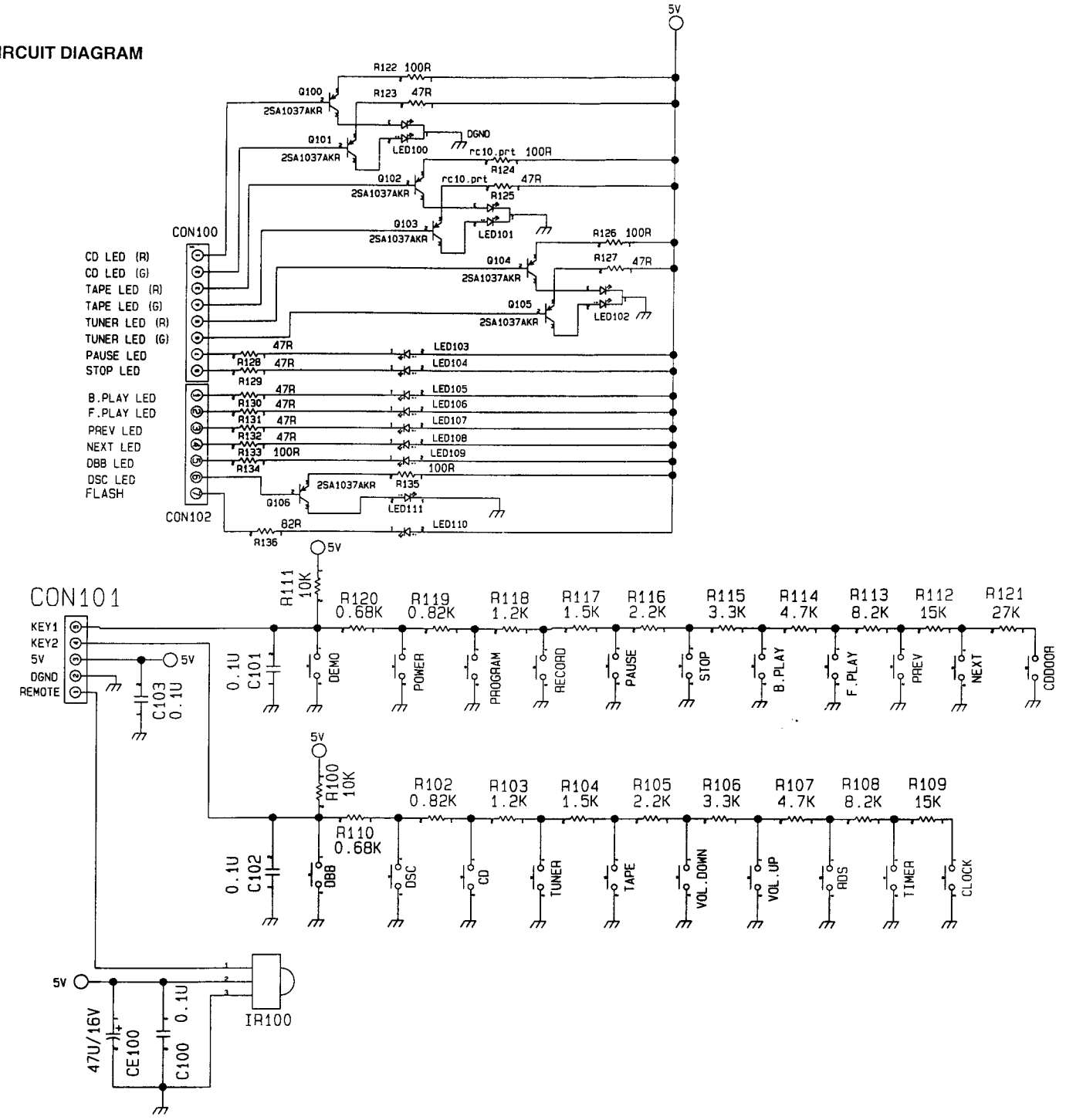

LA1832M
IC 500
FM FRONTEND
IF Out
10.7MHz
Osc Out
VT
AM-OSC
5123
MW
5122
LW
IF-AM
450KHz
PHASE DETECTER
CHARGE PUMP
UNLOCK
DETECTOR
UNIVERSAL
COUNTER
LC72131M
IC504
LC75394NE
IC508
LATCH
DECODER
SHIFT REGISTER
CONTROL
IC501
BA 4558N
CON508
Woofer_R-CH
AGND
Woofer_l-CH
H-Control
-12V
Woofer_Out
AGND
RCA500
Q520
Q519
Q502
MPX
signal
MUX
330 pF
SCOUT
560 pF
CIN
+5V
0.1µF
2.2µF


SAA6579
IC 505
MPX signal
MUX
330 pF
ANTI ALIASING FILTER
57 kHz BANDPASS (8th ORDER)
RECONSTRUCTION FILTER
OSCILLATOR AND DIVIDER
QUALITY BIT GENERATOR
QUAL
SCOUT
560 pF
CIN
CLOCKED COMPARATOR
CONSTAS LOOP VARIABLE AND FIXED DIVIDER
BIPHASE SYMBOL DECODER
DIFFERENTIAL DECODER
RDDA
RDCL
REFERENCE VOLTAGE
CLOCK REGENERATION AND SYNC
TEST LOGIC AND OUTPUT SELECTOR SWITCH
T57
MODE
TEST
4.332/8.664 MHz
47 pF
82 pF
2.2 kΩ
0.1 µF
OSCI
OSCO
Q515
Q514
Q516
CON 505
DGND
+5V
+12V
REC IN R
AGND
REC IN L
DECK IN R
AGND
DECK IN L
CON 606
CD IN R
AGND
CD IN L
+8V
+5V
PGND
+22V
LC75394NE
IC508
SHIFT REGISTER
CONTROL
Q522
Q519
Ripple filter, impulse noise prevention circuit
Current limiter circuit
CH 1
CH2
Bias circuit
Overvoltage protection circuit
Thermal shroff protection circuit
Standby switch
Pre-ground
Power ground
Power ground
IN1
IN2
NF1
NF2
OUT1
OUT2
BS1
BS2
IC501
A 4558N
Q502
LA4550
IC 509
PHASE
PILOT
PHASE DET
PILOT DET16
STEREO SW
STEREO DRIVE
TRIG
FF
FF
R OUT
L OUT
FLPET
ECODER

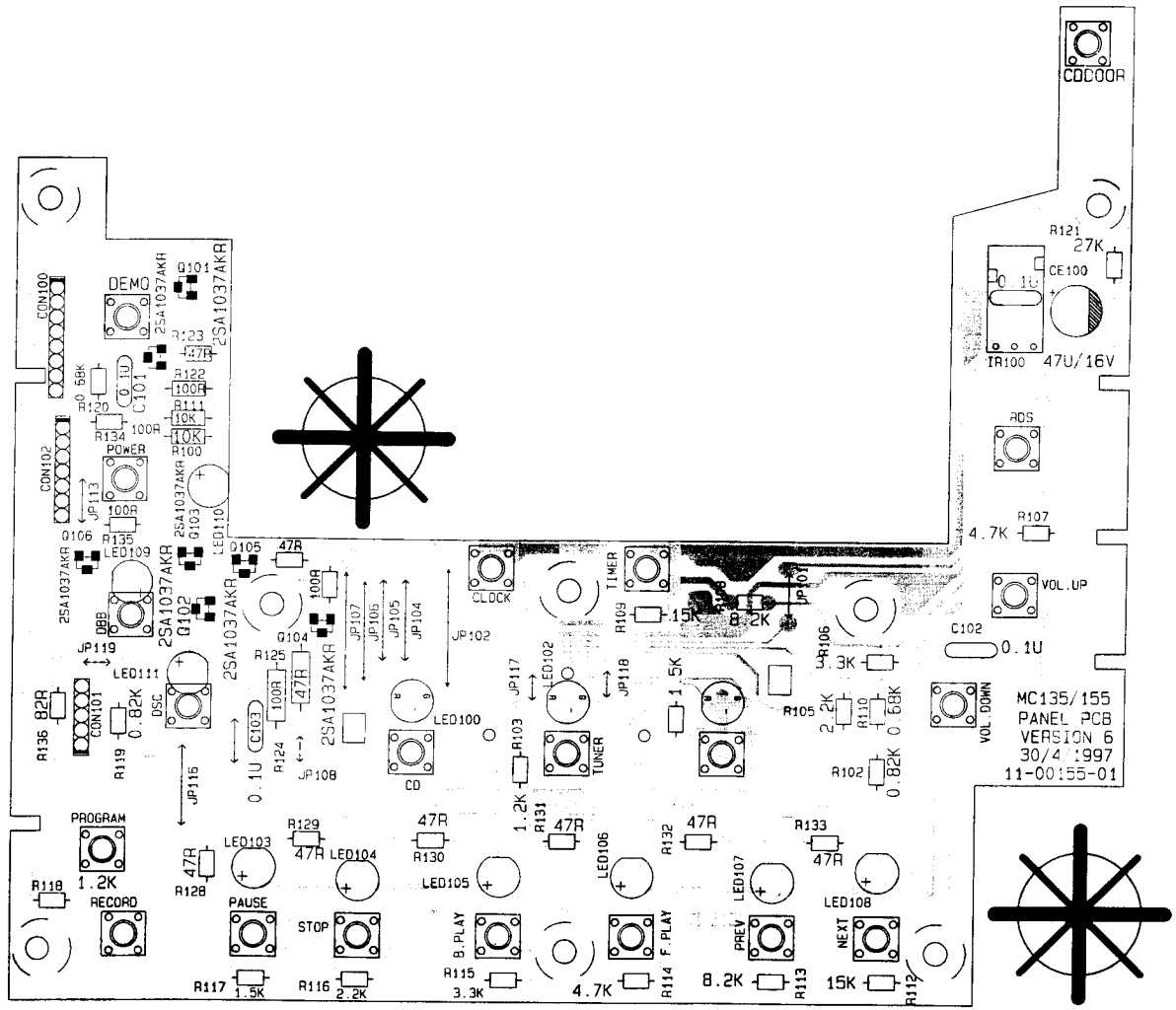
BLOCK DIAGRAM - CD BOARD



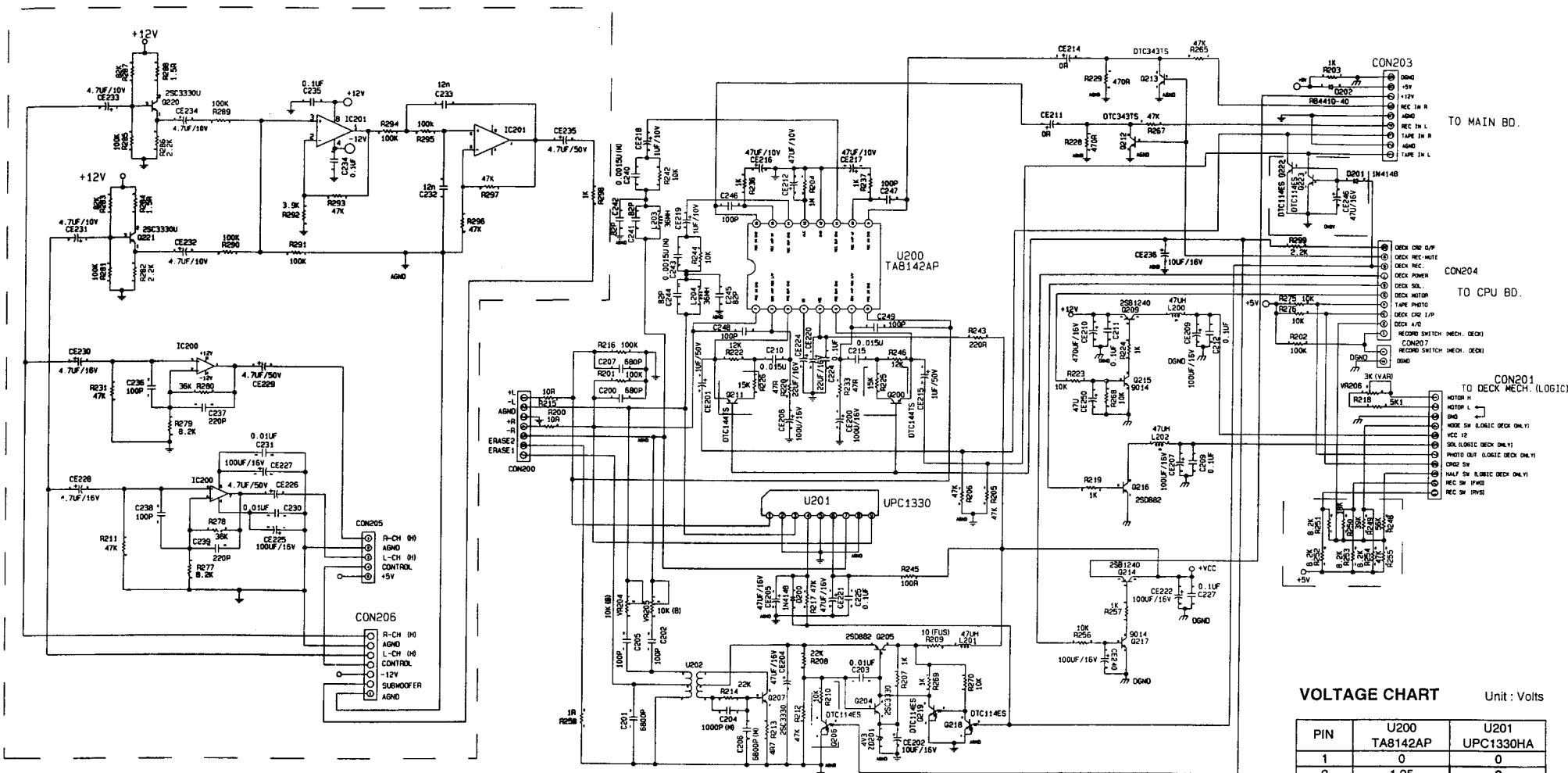
PANEL BOARD - CIRCUIT DIAGRAM



PANEL BOARD - LAYOUT DIAGRAM



PREAMP BOARD - CIRCUIT DIAGRAM



VOLTAGE CHART

Unit : Volts

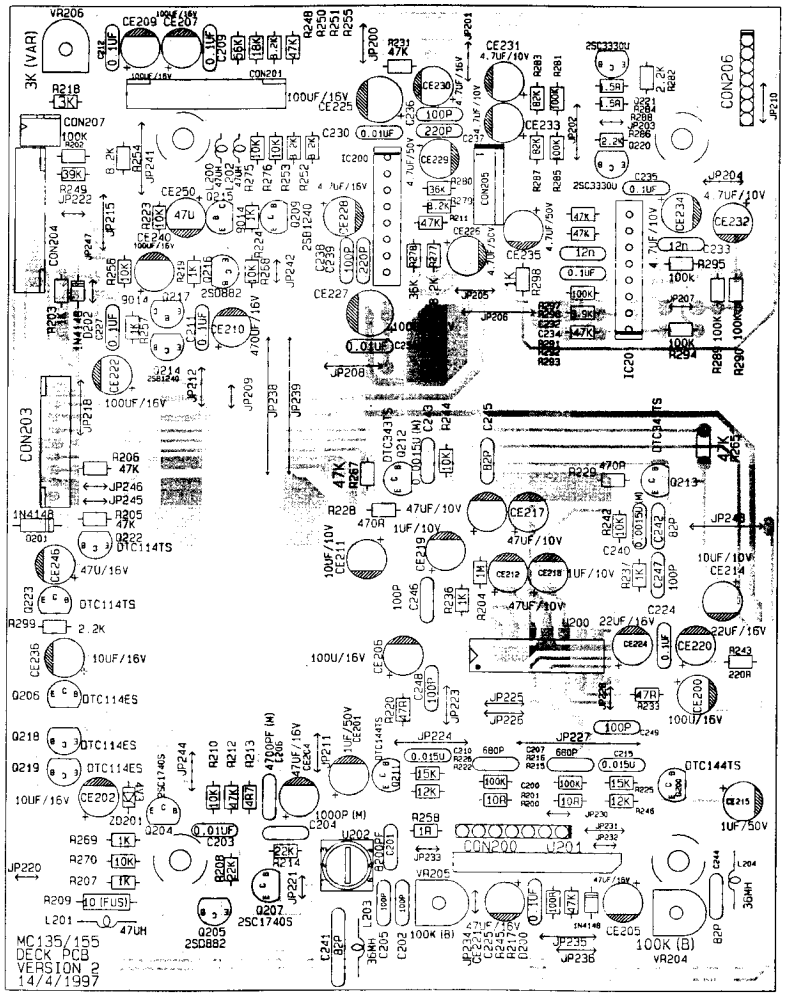
PIN	IC200 BA4558N	IC201 BA4558N
1	0.05	0.06
2	0	0
3	0	0
4	-12.09	-12.08
5	0	0.06
6	0	0
7	0.05	0.06
8	12.35	12.45

VOLTAGE CHART

Unit : Volts

PIN	U200 TA8142AP	U201 UPC1330HA
1	0	0
2	1.25	0
3	2.05	0
4	1.43	0
5	10.21	0
6	2.05	11.69
7	1.25	0
8	0	
9	0	
10	1.25	
11	2.21	
12	0	
13	0	
14	2.22	
15	1.25	
16	0	

PREAMP BOARD - LAYOUT DIAGRAM



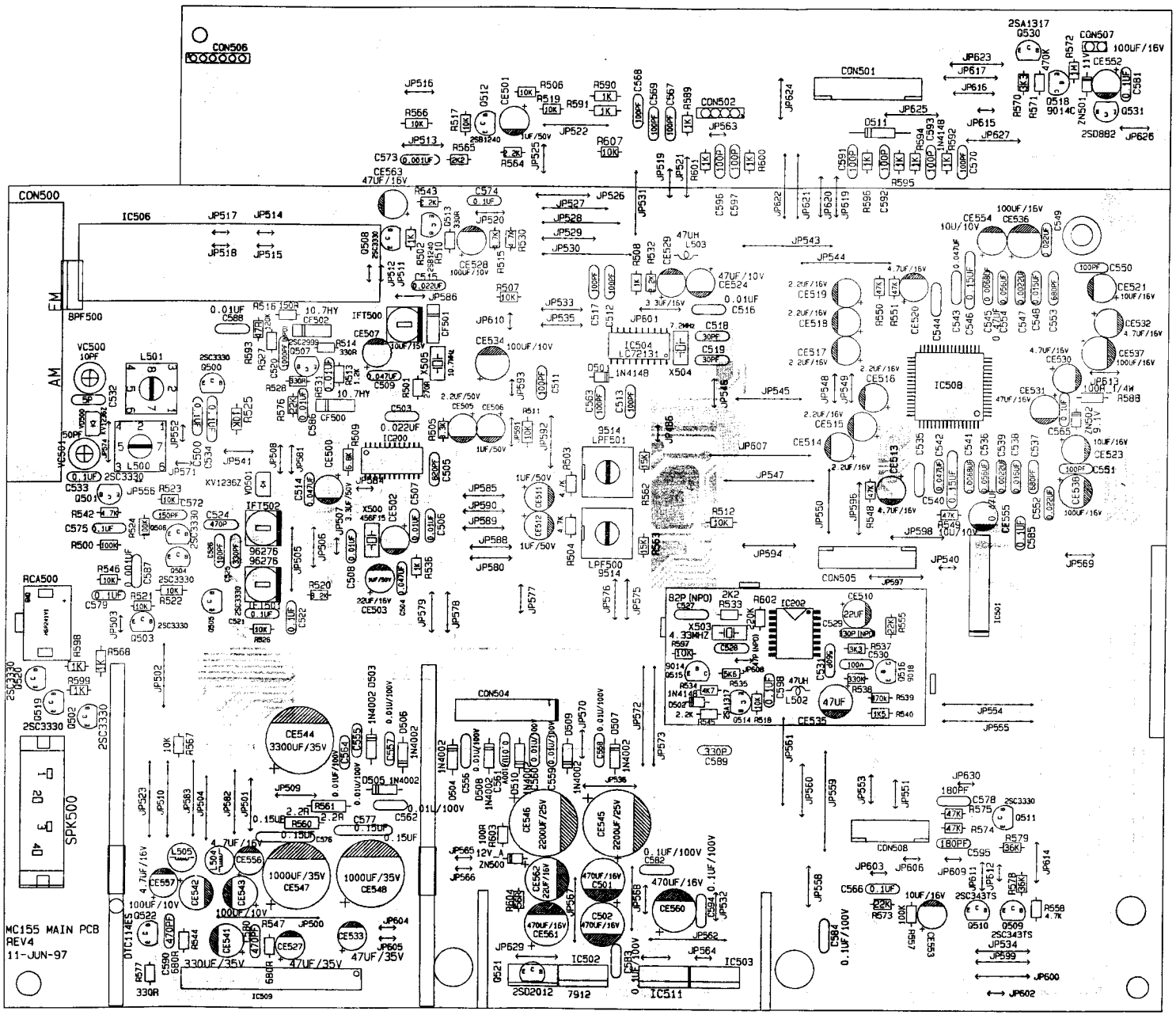
CASSETTE ADJUSTMENT

Adjustment	Cassette	SK	Deck 1	Measure on	Read on	Adjust with	Adjust to
Azimuth	10kHz SBC420*	TAPE	Forward Play	Speaker	mV meter	Left hand Screw R/P head	max.
			Reverse Play	Speaker	mV meter	Right hand Screw R/P head	max.
Motor Speed	3150kHz SBC420*	TAPE	Play	Speaker	W&F Meter	VR206	**a
Bias Frequency Alignment	/	TAPE	Record	Pin 6 of U202	Frequency Counter	U202	110 ± 2KHz

* SBC420 : 4822 397 30071

**a The maximum permissible speed deviation is ± 2%.
Morever, the wow and flutter value can be read.
This value should not exceed 0.3%.

MAIN BOARD - LAYOUT DIAGRAM



VOLTAGE CHART

PIN	IC500 LA1832M		IC504 LC72131	
	FM	AM	FM	AM
1	2.1		2.6	
2	5		0	
3	2.1		0	
4	2.1		0	
5	0		5	
6	5		1	13
7	5		4	0
8	2.8	3.4	5	0.1
9	5		5	
10	5		0	
11	3.8	1.5	0	
12	3.8	0	0	
13	3.5		0	2.5
14	1.2		2.5	0
15	1.2		5	
16	2.1		1	1.2
17	2.4	0	1	1.2
18	2	0.9	3.2	1
19	0	1.9	0	
20	0.2	0.9	2.6	
21	2.9	2.1		
22	2.9	2.1		
23	5			
24	3.6			

IC508 LC75394							
PIN	VOLTS	PIN	VOLTS	PIN	VOLTS	PIN	VOLTS
1	3.51	17	2.05	33	2.05	49	4.5
2	4.65	18	0	34	4.65	50	4.65
3	2.74	19	2.05	35	4.65	51	4.65
4	3.5	20	0	36	2.68	52	4.65
5	4.65	21	2.05	37	4.4	53	4.2
6	2.74	22	0	38	4.65	54	0
7	3.5	23	0	39	3.5	55	4.65
8	4.65	24	0	40	2.74	56	4.65
9	2.74	25	0	41	4.65	57	0.26
10	3.5	26	0	42	3.5	58	4.65
11	4.65	27	0	43	2.74	59	0
12	4.5	28	2.05	44	4.65	60	4.2
13	2.45	29	0	45	3.5	61	4.65
14	4.65	30	2.05	46	2.75	62	4.65
15	4.65	31	0	47	4.65	63	4.65
16	2.05	32	2.05	48	3.5	64	4.5

PIN	IC502 BA4558N	IC505 SAA6597T	IC509 LA4450
1	0	2.4	23.8
2	0	2.6	13.6
3	0	2.51	0
4	-12.07	2.37	0
5	0	5.03	13.8
6	0	0	23.9
7	0	2.29	26.9
8	13.04	2.55	1.22
9		0	0
10		0	25.7
11		0	0
12		5.03	2.22
13		2.29	0
14		2.63	1.22
15		2.51	
16		2.51	

Service
Service
Service

Product Service Group CE Audio

Service Information

Already published Service Information :

(GB)

To adapt the service manual the following sheets have been added/changed.

(NL)

Voor het aanpassen van de service manual zijn de onderstaande pagina's toegevoegd/gewijzigd.

(F)

Afin de pouvoid adapter le "manual service" les feuillets suivants ont été soit modifiés, soil ajoutés.

(D)

Zür anpassung des service Manual sind die nachstehenden Seiten hinzugefügt/geändert.

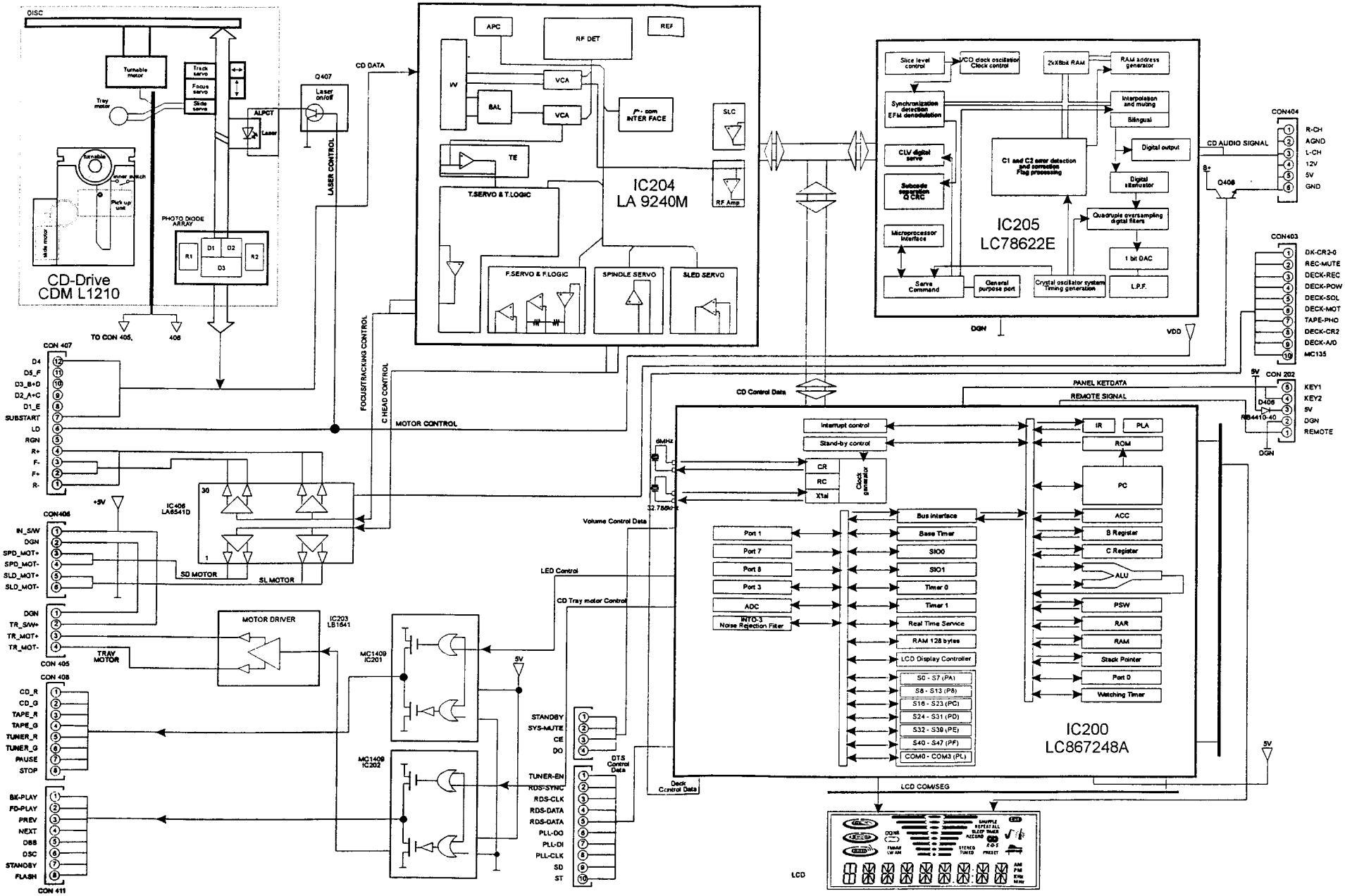
(I)

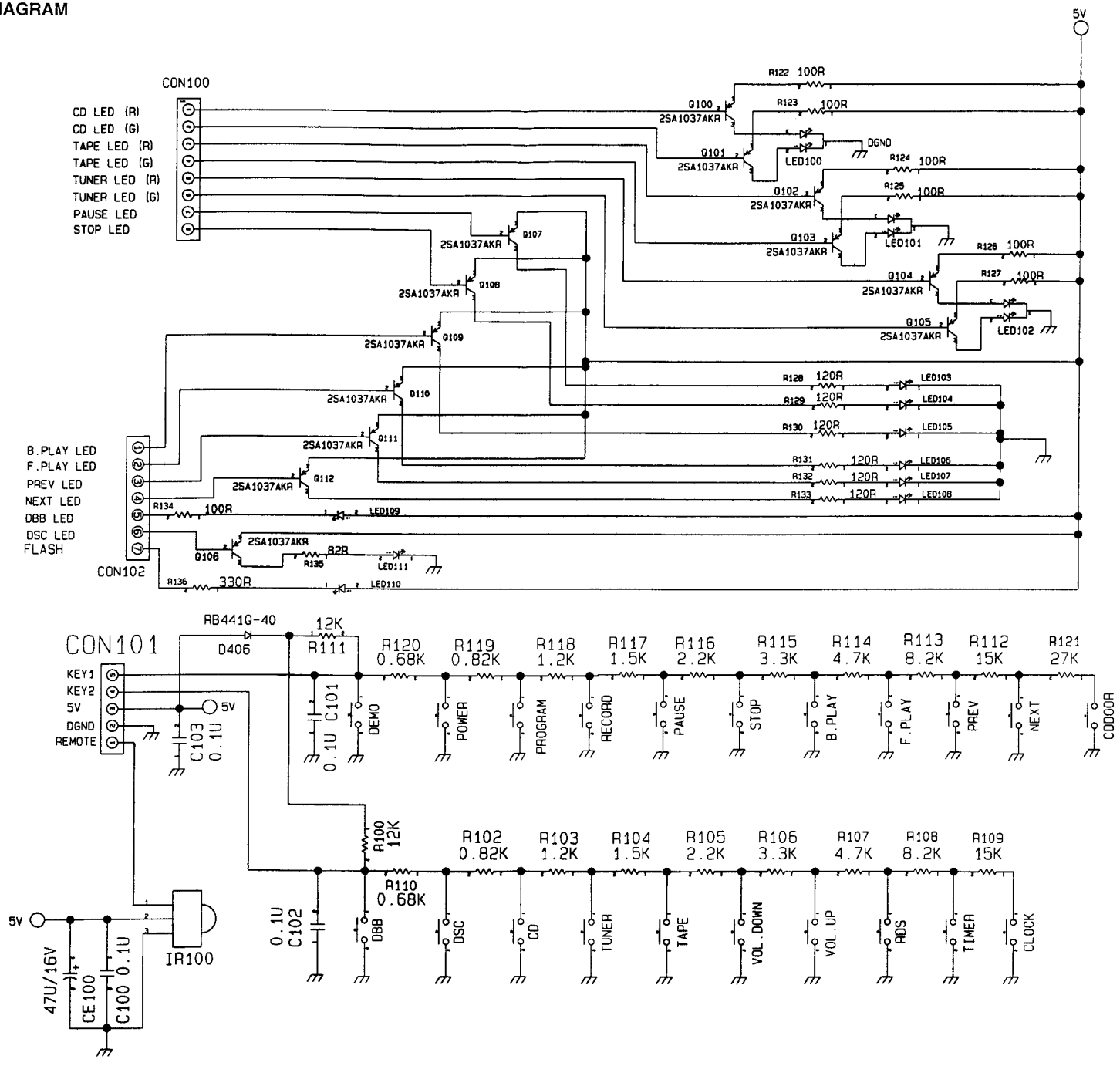
Le seguenti pagine sono state cambiate/aggiunte allo scopo di adattare il Manuale di Servizio.

Enclosed are additional and updated informations.

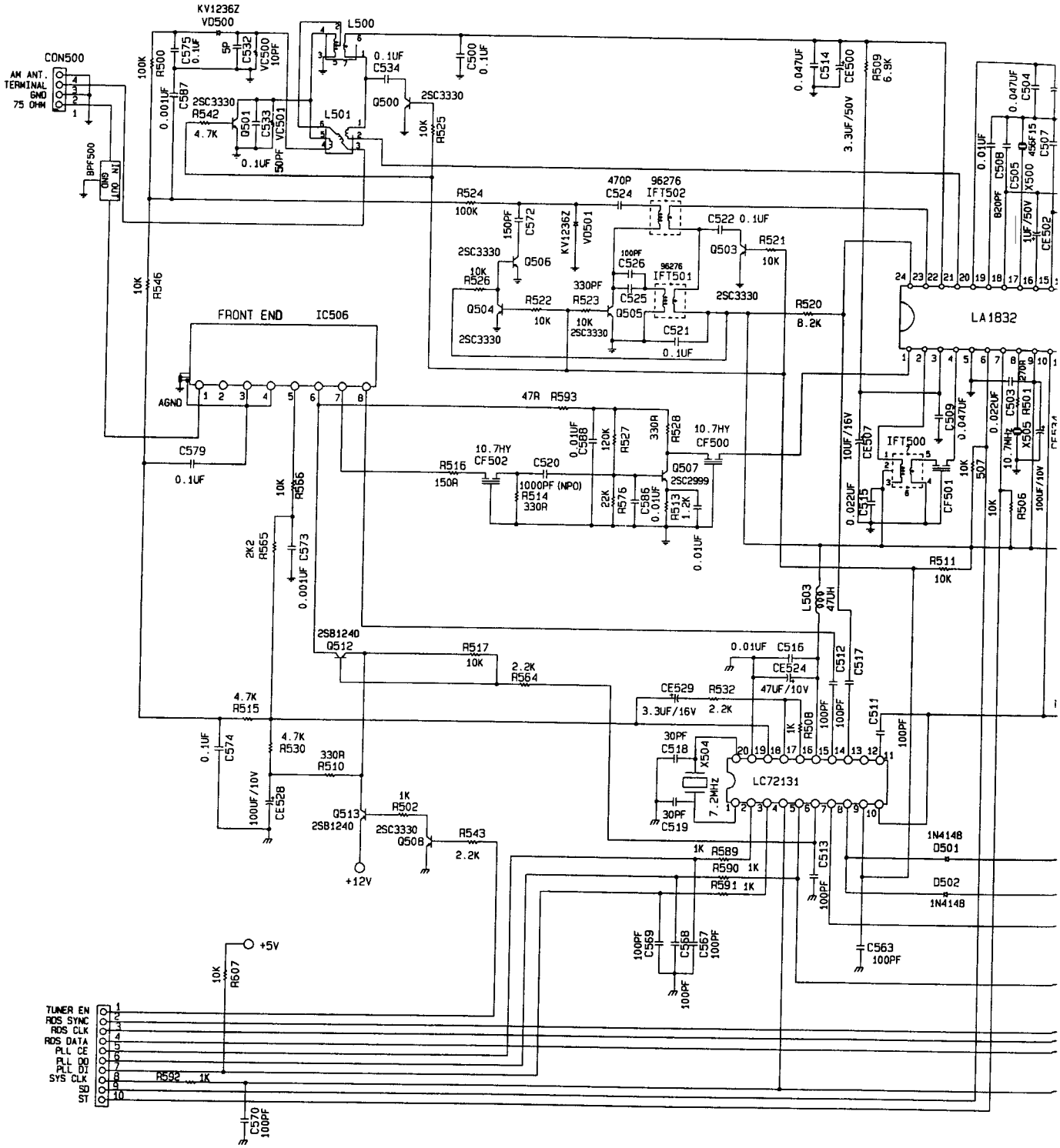
Description	PCS number	Reason
Panel board - Circuit Diagram	PCS 87 372	Correction of drawing
Panel board - Layout Diagram	PCS 87 373	Correction of drawing
Electrical partslist	PCS 87 384	Correction of partslist

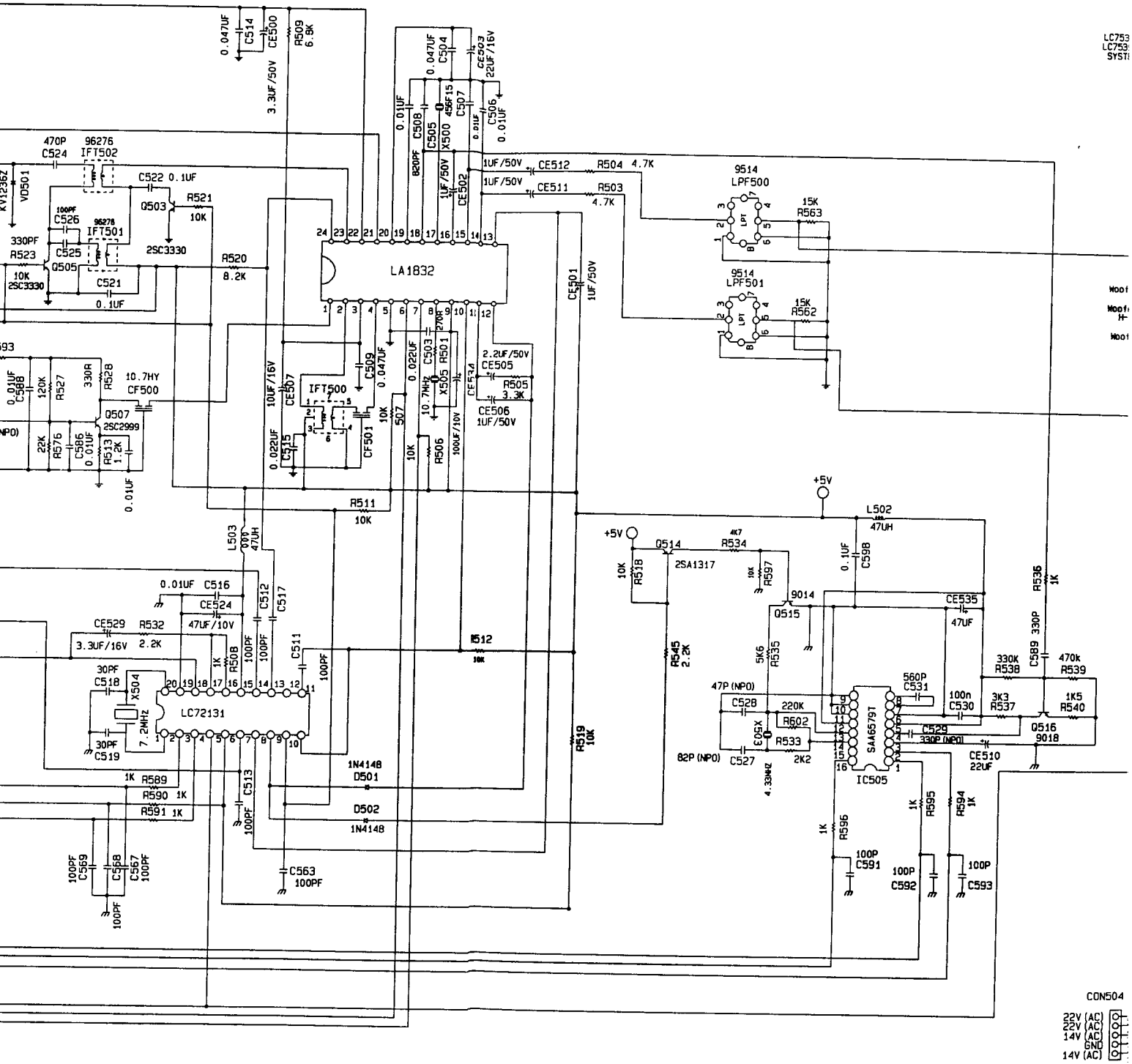
BLOCK DIAGRAM - CD BOARD

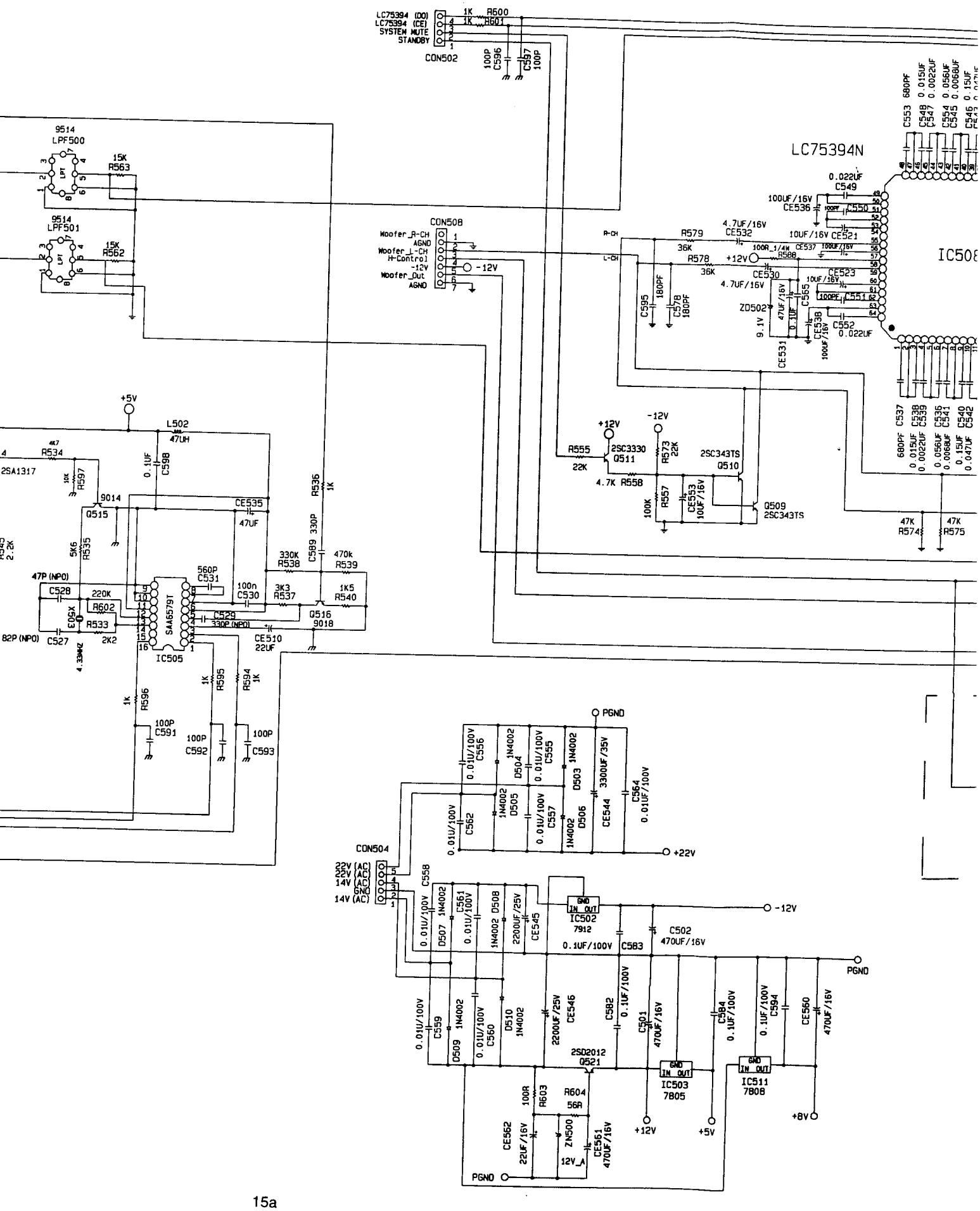


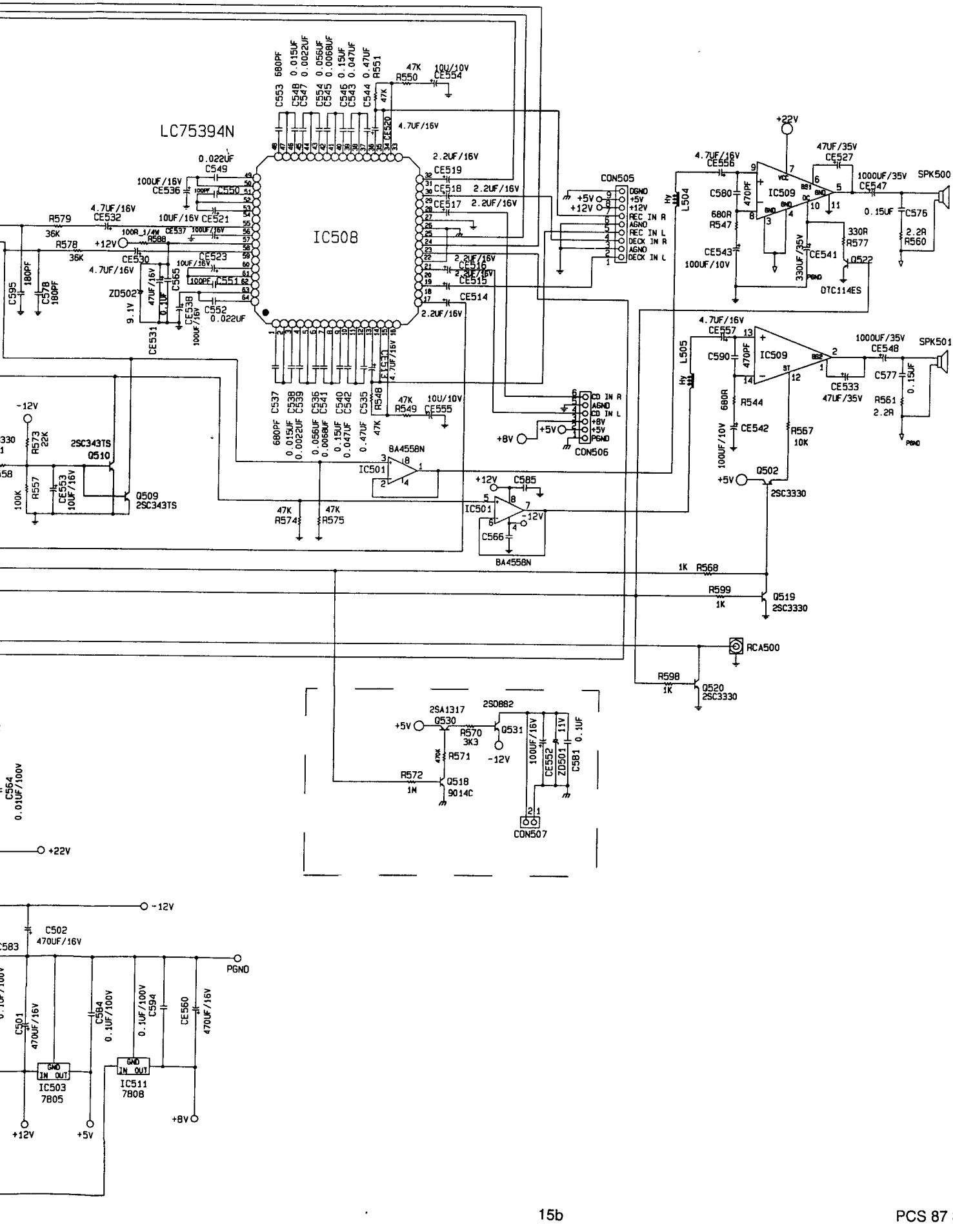

CON100
CD LED (R)
CD LED (G)
TAPE LED (R)
TAPE LED (G)
TUNER LED (R)
TUNER LED (G)
PAUSE LED
STOP LED
5V
R122 100R
R123 100R
R124 100R
R125 100R
R126 100R
R127 100R
Q100 2SA1037AKR
Q101 2SA1037AKR
Q102 2SA1037AKR
Q103 2SA1037AKR
Q104 2SA1037AKR
Q105 2SA1037AKR
Q107 2SA1037AKR
Q108 2SA1037AKR
Q109 2SA1037AKR
Q110 2SA1037AKR
Q111 2SA1037AKR
Q112 2SA1037AKR
DGND
LED100
LED101
LED102
LED103
LED104
LED105
LED106
LED107
LED108
LED109
LED110
LED111
R128 120R
R129 120R
R130 120R
R131 120R
R132 120R
R133 120R
B.PLAY LED
F.PLAY LED
PREV LED
NEXT LED
DBB LED
DSC LED
FLASH
CON102
R134 100R
Q106 2SA1037AKR
R135 82R
R136 330R
CON101
KEY1
KEY2
5V
DGND
REMOTE
RB441Q-40
D406
12K
R111
C103 0.1U
0.1U C101
DEMO
R120 0.68K
R119 0.82K
R118 1.2K
R117 1.5K
R116 2.2K
R115 3.3K
R114 4.7K
R113 8.2K
R112 15K
R121 27K
POWER
PROGRAM
RECORD
PAUSE
STOP
B.PLAY
F.PLAY
PREV
NEXT
CDDOOR
R100 12K
R110 0.68K
R102 0.82K
R103 1.2K
R104 1.5K
R105 2.2K
R106 3.3K
R107 4.7K
R108 8.2K
R109 15K
0.1U C102
DBB
DSC
CD
TUNER
TAPE
VOL.DOWN
VOL.UP
RDS
TIMER
CLOCK
IR100
47U/16V CE100
C100 0.1U

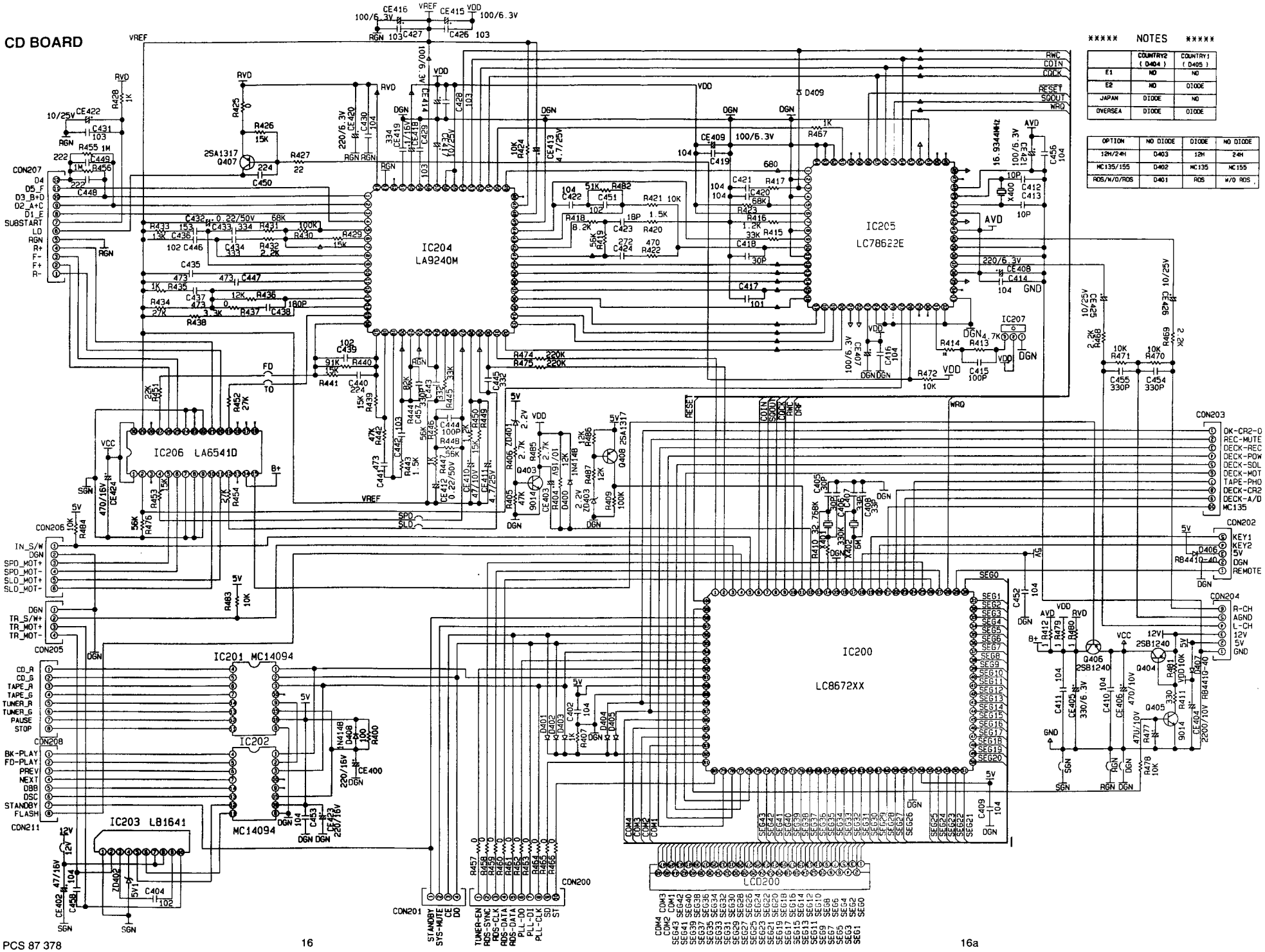
MAIN BOARD - CIRCUIT DIAGRAM




LA1832
LC72131
IC505
SAA6579T
IFT500
IFT501
IFT502
CF500
CF501
X500
X504
X505
7.2MHz
4.33MHz
LPF500
LPF501
Q503
2SC3330
Q505
Q507
2SC2999
Q514
2SA1317
Q515
9014
Q516
9018
D501
1N4148
D502
1N4148
L502
47UH
L503
47UH
CON504
22V (AC)
22V (AC)
14V (AC)
GND
14V (AC)
+5V
+5V


LC75394 (DO)
LC75394 (CE)
SYSTEM MUTE
STANDBY
CON502
R600
R601
C596
C597
LC75394N
CON508
Woofer_R-CH
AGND
Woofer_L-CH
H-Control
-12V
Woofer_Out
AGND
R-CH
L-CH
R579
R578
CE532
CE530
CE521
CE523
CE536
CE537
CE531
C549
C550
C551
C552
C553
C554
C555
C538
ZD502
C595
C578
IC50
9514
LPF500
9514
LPF501
R563
R562
+5V
L502
47UH
R534
R597
R535
Q515
9014
CE535
47UF
C598
0.1UF
R536
C589
330P
330K
R538
470k
R539
1K5
R540
Q516
9018
CE510
22UF
47P (NPO)
C528
220K
R602
R533
2K2
C527
82P (NPO)
560P
C531
100n
C530
3K3
R537
C529
330P (NPO)
SAA6579T
IC505
R596
R595
R594
C591
C592
C593
100P
+12V
-12V
2SC3330
Q511
R555
22K
R573
22K
2SC343TS
Q510
4.7K R558
R557
100K
CE533
Q509
2SC343TS
47K
R574
47K
R575
PGND
CON504
22V (AC)
22V (AC)
14V (AC)
GND
14V (AC)
C558
D507
D509
D510
D508
C561
C560
C559
2200UF/25V
CE545
CE546
IC502
7912
0.1UF/100V
C583
C502
470UF/16V
+22V
-12V
C582
C501
C584
C594
CE560
2SD2012
Q521
IC503
7805
IC511
7808
+12V
+5V
+8V
R603
100R
R604
56R
CE562
22UF/16V
ZN500
12V_A
CE561
470UF/16V
PGND


LC75394N
IC508
IC509
IC501
IC503
7805
IC511
7808
CON505
CON506
CON507
SPK500
SPK501
RCA500
Q509
2SC343TS
Q510
2SC343TS
Q502
2SC3330
Q519
2SC3330
Q520
2SC3330
Q522
DTC114ES
Q530
2SA1317
Q531
2SD882
Q518
9014C
BA4558N
+22V
-12V
+12V
+5V
+8V
PGND


CD BOARD
IC204 LA9240M
IC205 LC78622E
IC206 LA6541D
IC200 LC8672XX
IC201 MC14094
IC202
IC203 LB1641
MC14094
LCD200
CON200
CON201
CON202
CON203
CON204
CON205
CON206
CON207
CON208
CON211
NOTES
COUNTRY2 (D404)
COUNTRY1 (D405)
E1 NO NO
E2 NO DIODE
JAPAN DIODE NO
OVERSEA DIODE DIODE
OPTION NO DIODE DIODE NO DIODE
12H/24H D403 12H 24H
MC135/155 D402 MC135 MC155
ROS/W/O/ROS D401 ROS W/O ROS

VOLTAGE CHART

IC200 LC86P7248							
PIN	VOLTS	PIN	VOLTS	PIN	VOLTS	PIN	VOLTS
1	0	26	2.5	51	2.2	76	0
2	0	27	2.48	52	2.2	77	0
3	0	28	0	53	2.2	78	0
4	4.62	29	4.62	54	2.2	79	0
5	4.92	30	2.2	55	2.2	80	4.94
6	0	31	2.2	56	4.62	81	0.45
7	0	32	2.2	57	0	82	0.45
8	4.62	33	2.2	58	2.27	83	2.25
9	0	34	2.2	59	2.22	84	2.25
10	0	35	2.2	60	2.27	85	2.25
11	4.9	36	2.2	61	2.25	86	2.27
12	4.6	37	2.2	62	2.22	87	4.45
13	0.2	38	2.2	63	2.2	88	0
14	2.43	39	2.2	64	2.23	89	0
15	0	40	2.2	65	2.2	90	4.62
16	1.09	41	2.2	66	2.2	91	0
17	2.38	42	2.2	67	2.2	92	0
18	4.62	43	2.2	68	2.2	93	4.94
19	4.32	44	2.2	69	2.2	94	0
20	4.32	45	2.2	70	2.2	95	0
21	0	46	2.2	71	2.2	96	0
22	4.87	47	2.2	72	2.2	97	4.62
23	4.87	48	2.2	73	2.2	98	4.62
24	4.87	49	2.2	74	2.28	99	4.58
25	2.2	50	2.2	75	2.2	100	4.62

PIN	IC201 MC14094	IC202 MC14094
1	0	0
2	0	4.97
3	0	0
4	1.23	4.97
5	4.97	3.6
6	4.97	3.6
7	1.46	0.07
8	0	0
9	4.97	0
10	4.97	0
11	3.6	4.1
12	3.6	4.1
13	1.48	4.97
14	4.97	4.97
15	/	/
16	4.97	4.97

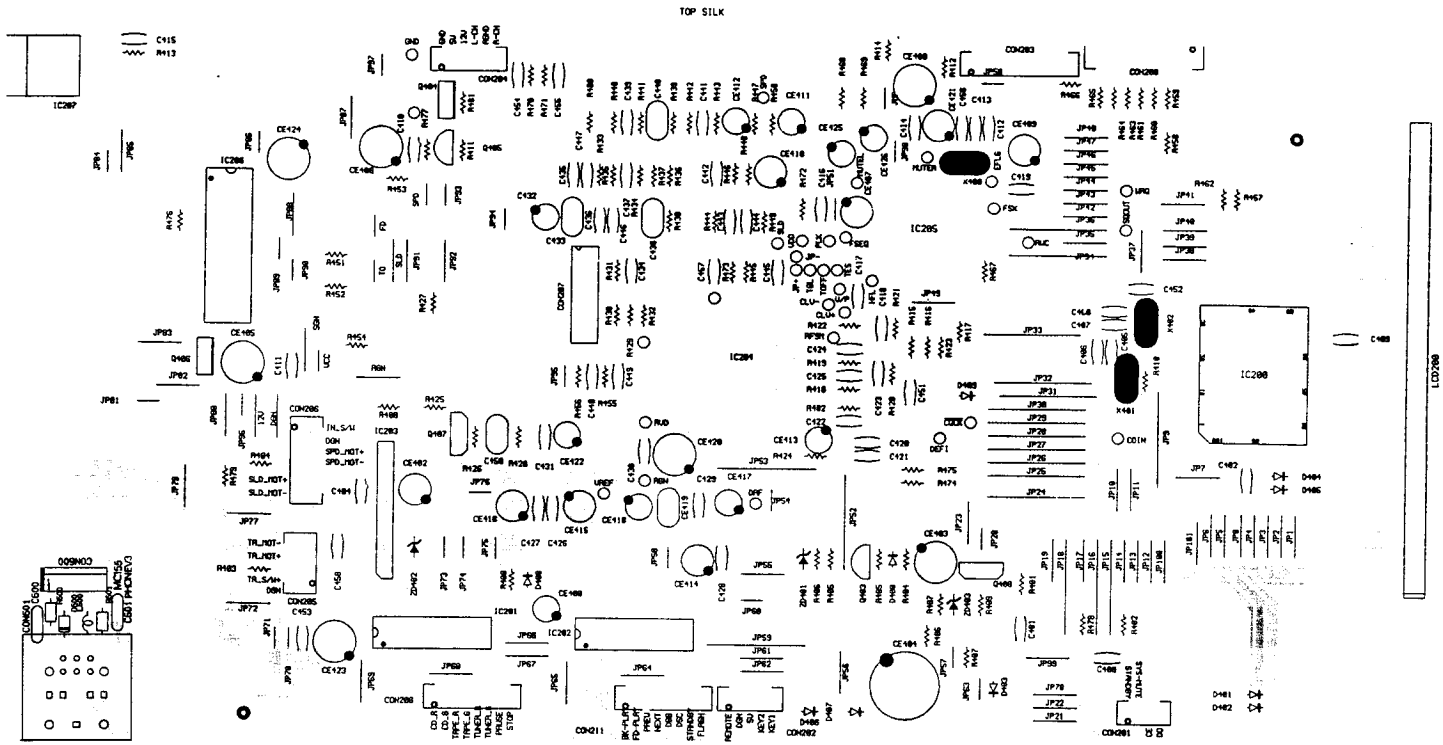
IC204 LA9240M							
PIN	VOLTS	PIN	VOLTS	PIN	VOLTS	PIN	VOLTS
1	2.46	17	2.48	33	0	49	0
2	2.46	18	2.48	34	4.88	50	2.45
3	2.49	19	2.48	35	4.88	51	4.62
4	2,49	20	2.48	36	0.04	52	0
5	2.28	21	2.48	37	0	53	0
6	2.48	22	0	38	0	54	0
7	2.49	23	2.4	39	0	55	4.88
8	2.36	24	2.4	40	0	56	4.88
9	2.36	25	2.43	41	1.56	57	2.45
10	2.28	26	2.48	42	2.38	58	2.48
11	2.47	27	2.48	43	2.5	59	0.87
12	2.39	28	2.44	44	2.47	60	0.93
13	2.48	29	2.49	45	0	61	2.17
14	2.48	30	2.3	46	2.45	62	4.16
15	2.48	31	2.24	47	2.48	63	0
16	2.5	32	0	48	0	64	4.93

PIN	IC203 LB1641
1	0
2	0.54
3	0.73
4	0.22
5	4.08
6	4.1
7	7.8
8	7.8
9	0.73
10	0.54

IC205 LC78622E							
PIN	VOLTS	PIN	VOLTS	PIN	VOLTS	PIN	VOLTS
1	0	17	4.87	33	0	49	0
2	0	18	4.87	34	0	50	2.43
3	0	19	0	35	4.87	51	0
4	0	20	0	36	4.91	52	2.43
5	0	21	2.41	37	2.13	53	0
6	1.55	22	0	38	0	54	0
7	4.87	23	4.87	39	0	55	0
8	0.07	24	0	40	2.14	56	0
9	0	25	0	41	4.91	57	4.61
10	2.44	26	0	42	4.87	58	4.61
11	2.5	27	0	43	4.91	59	0
12	0	28	4.87	44	2.78	60	3.2
13	0	29	0	45	1.9	61	2.66
14	4.85	30	4.8	46	0	62	0
15	0	31	0	47	0.11	63	0
16	0.03	32	0	48	2.2	64	0

IC206 LA6541D			
PIN	VOLTS	PIN	VOLTS
1	7.77	16	4.9
2	0	17	4.72
3	2.45	18	2.45
4	2.48	19	2.48
5	3.14	20	3.19
6	3.14	21	3.19
7	0	22	0
8	0	23	0
9	0	24	0
10	3.14	25	3.12
11	3.14	26	3.12
12	2.48	27	2.48
13	2.45	28	2.45
14	4.93	29	2.48
15	7.14	30	7.77

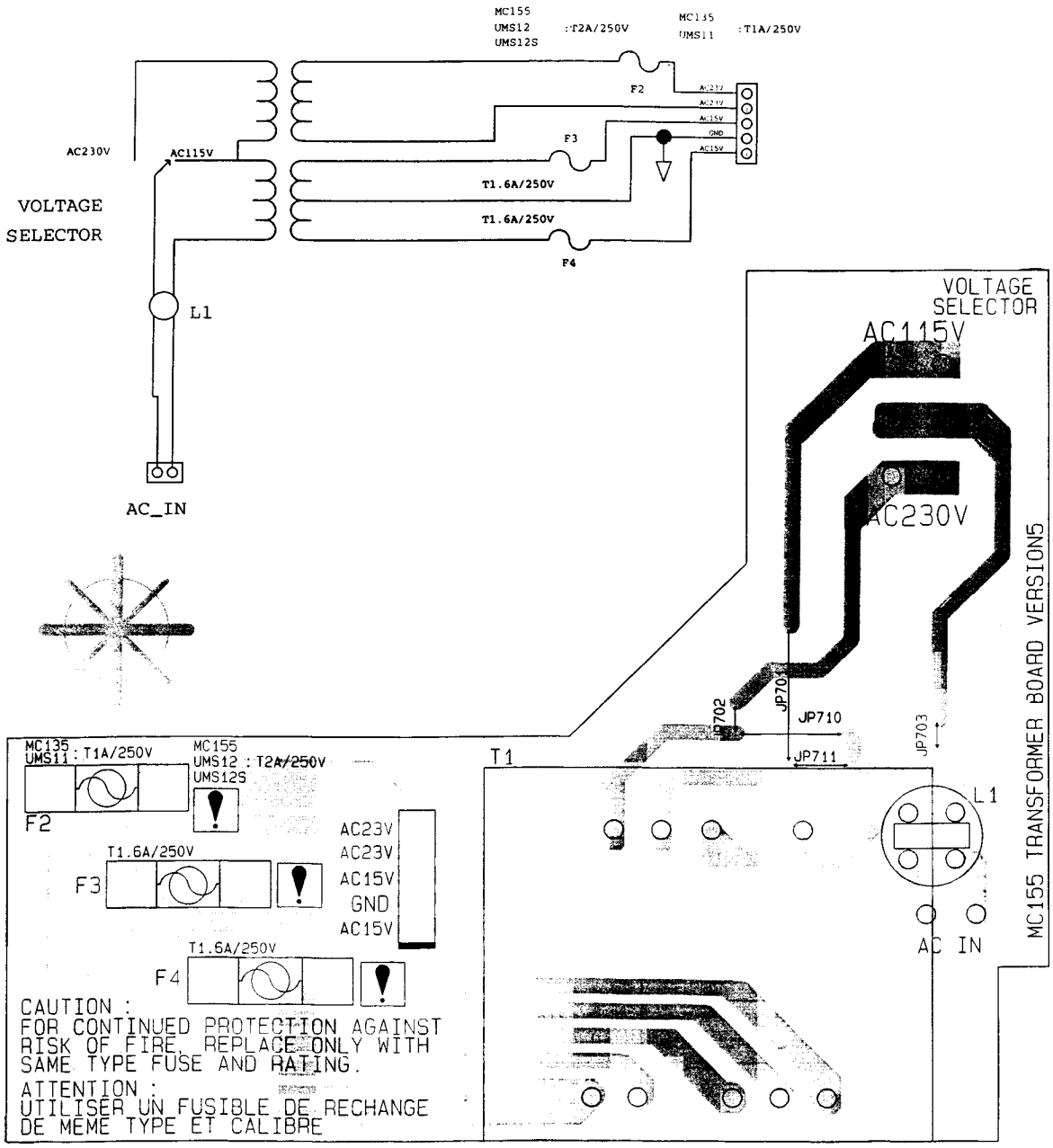
CD BOARD - LAYOUT DIAGRAM



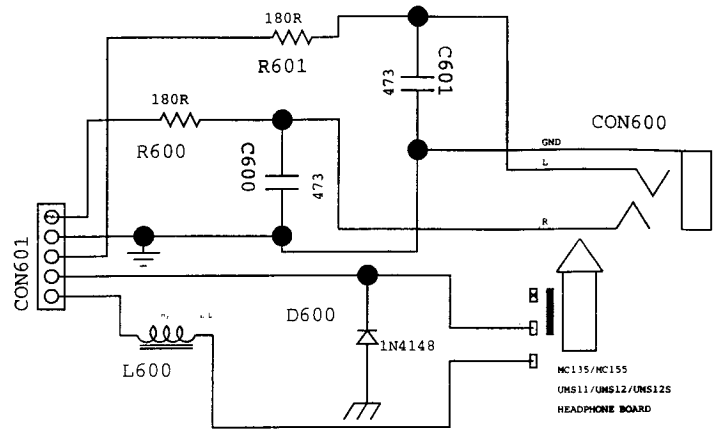
MEASUREMENT	INSTRUMENT	CONNECT TO	SHORT CIRCUIT [1]	VALUE
RF PLL VCO	Frequency counter	⊕ - PCK Gnd - D-GND	1. PDO to VREF	2.5 MHz ± 1 kHz
E/F BALANCE [2]	DC Voltmeter	⊕ TE and ⊖ VREF (via low pass filter)	1. RWC to D-GND 2. TOFF to VDD	0 ± 50mV
TRACKING OFFSET [2]	DC Voltmeter	⊕ TO and ⊖ VREF (via low pass filter)	1. RWC to D-GND 2. D-MUTE of LA6541 to D-GND	0 ± 150mV
FOCUS OFFSET	DC Voltmeter	⊕ FD and ⊖ VREF		0 ± 150mV

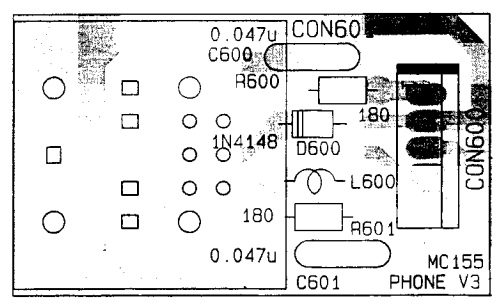
[1] Via a 10 ohm resistor. when the measurement is completed, disconnect all the short circuit bridge.
[2] Play track 1 of Philips Audio Signal Disc 1 (4822 397 30184)

TRANSFORMER BOARD



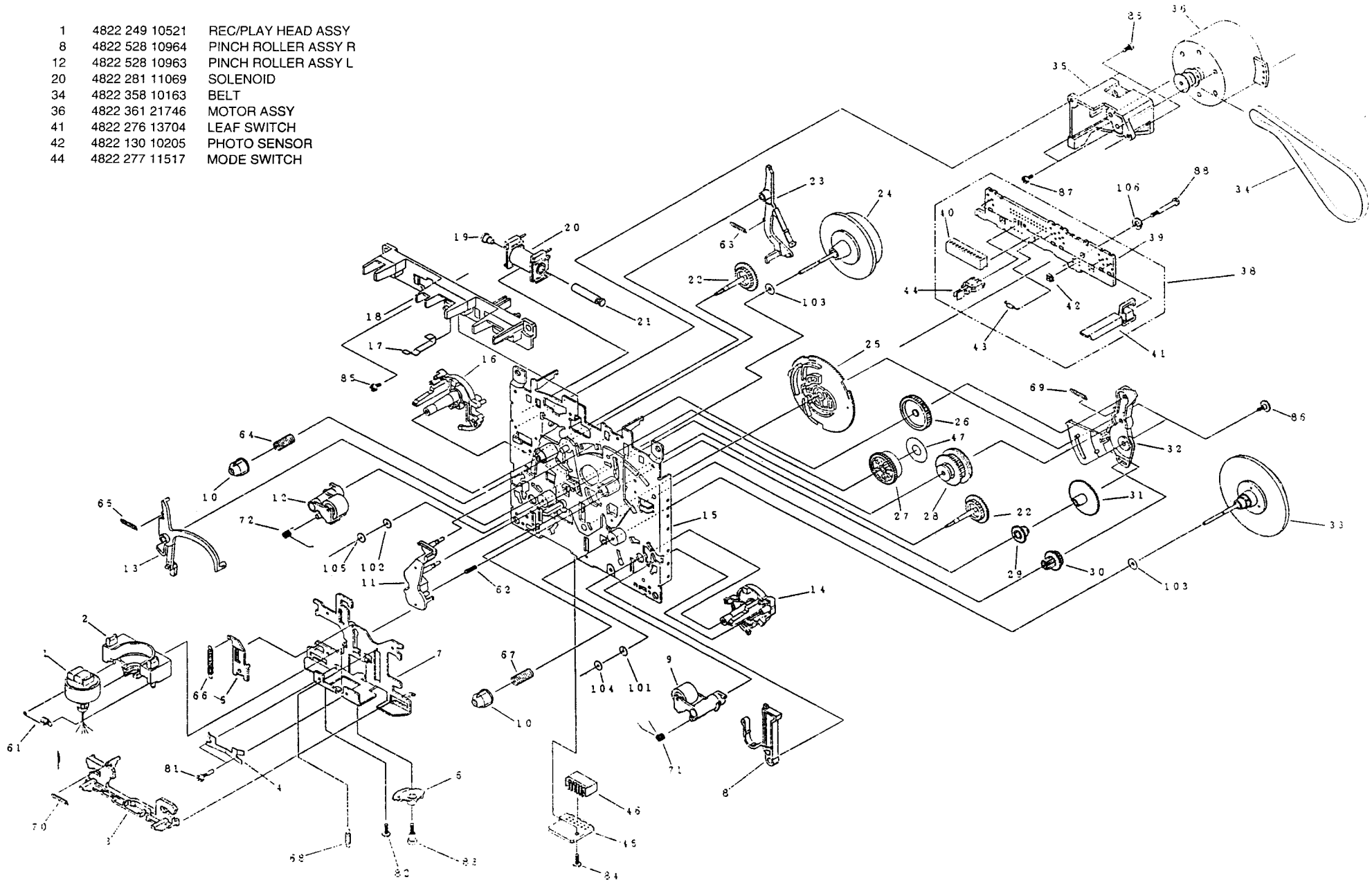
HEADPHONE JACK BOARD



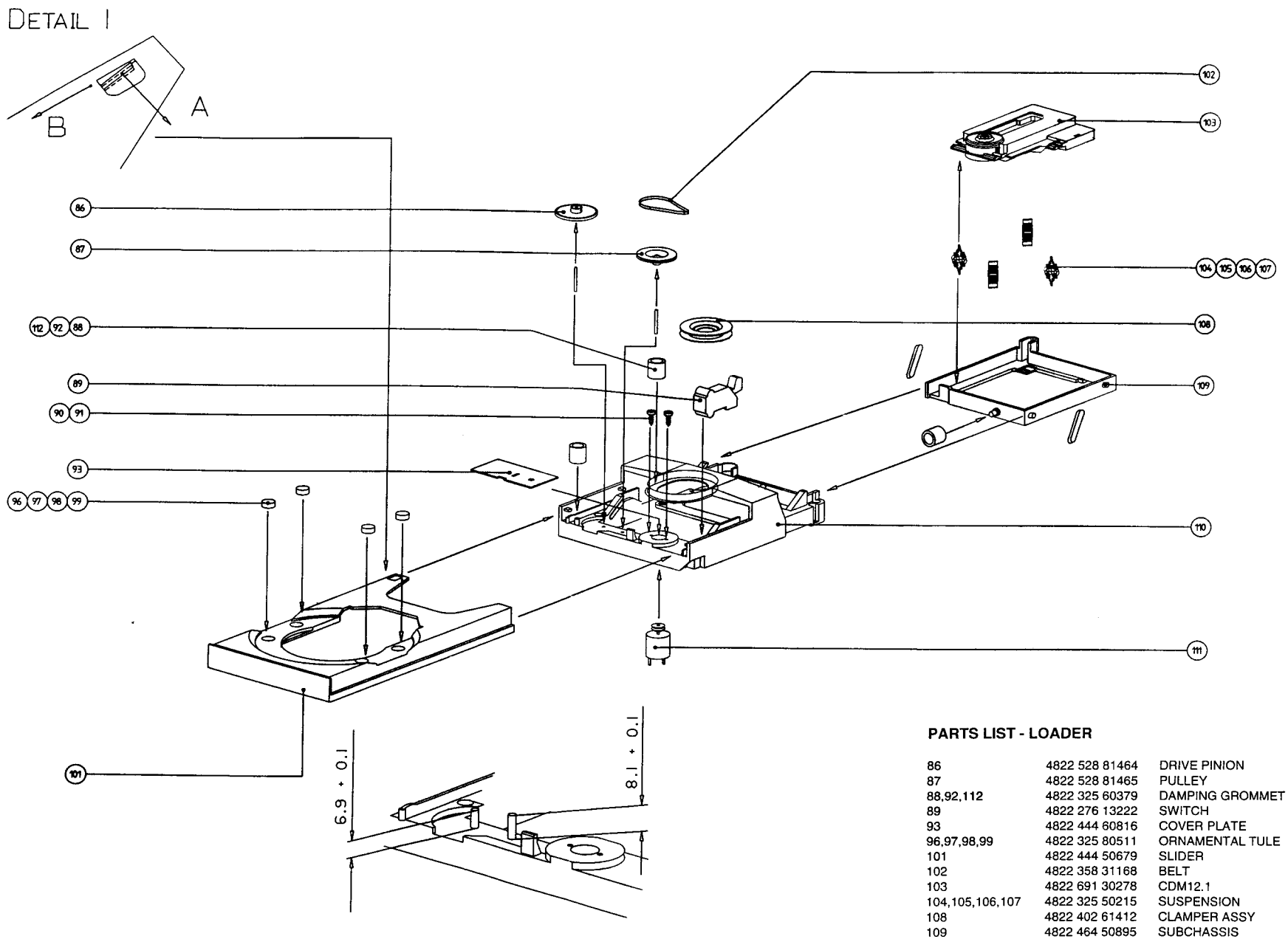


EXPLODED VIEW DIAGRAM - TAPE DECK

1	4822 249 10521	REC/PLAY HEAD ASSY
8	4822 528 10964	PINCH ROLLER ASSY R
12	4822 528 10963	PINCH ROLLER ASSY L
20	4822 281 11069	SOLENOID
34	4822 358 10163	BELT
36	4822 361 21746	MOTOR ASSY
41	4822 276 13704	LEAF SWITCH
42	4822 130 10205	PHOTO SENSOR
44	4822 277 11517	MODE SWITCH



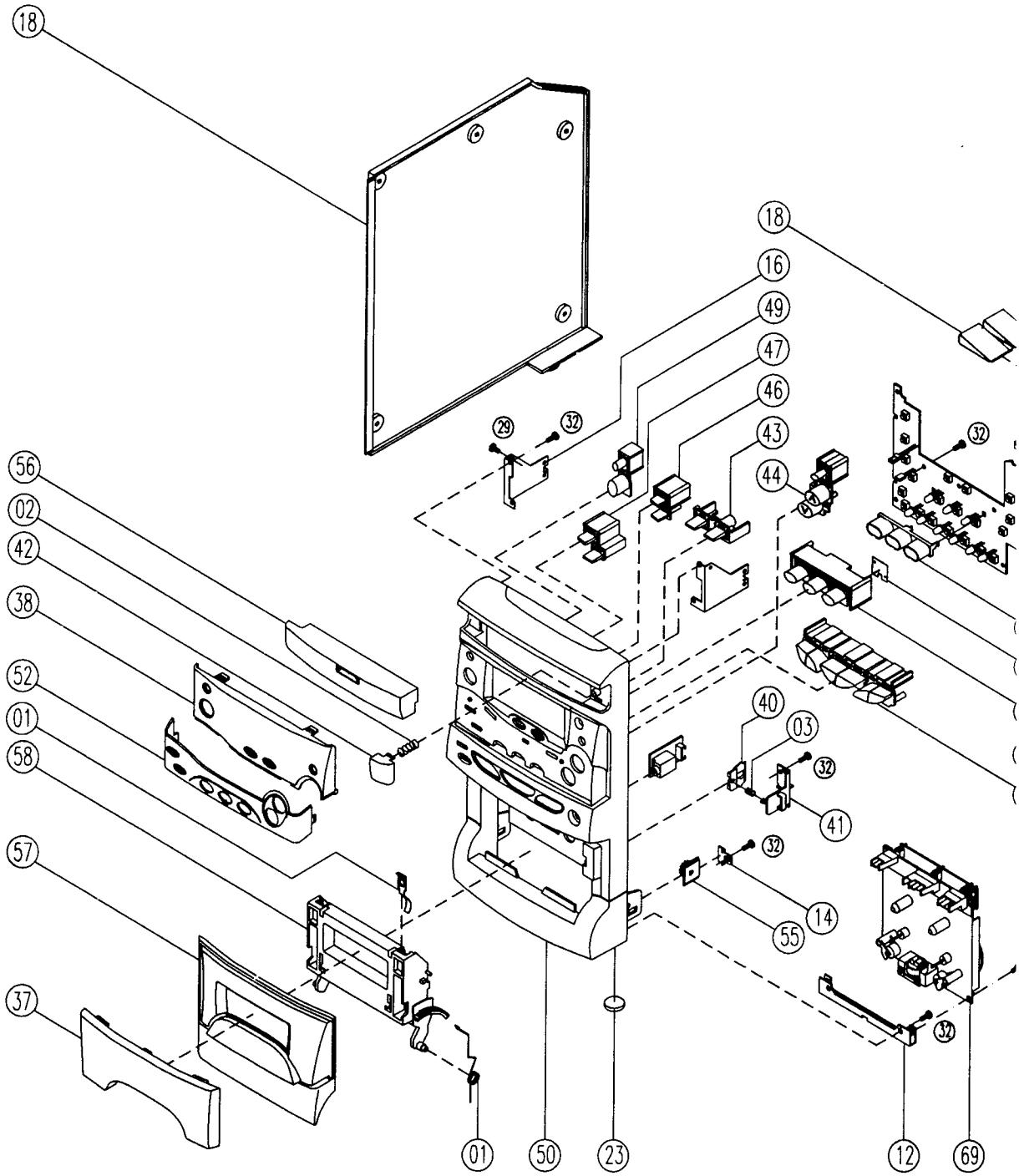
EXPLODED VIEW DIAGRAM - CD LAODER



PARTS LIST - LOADER

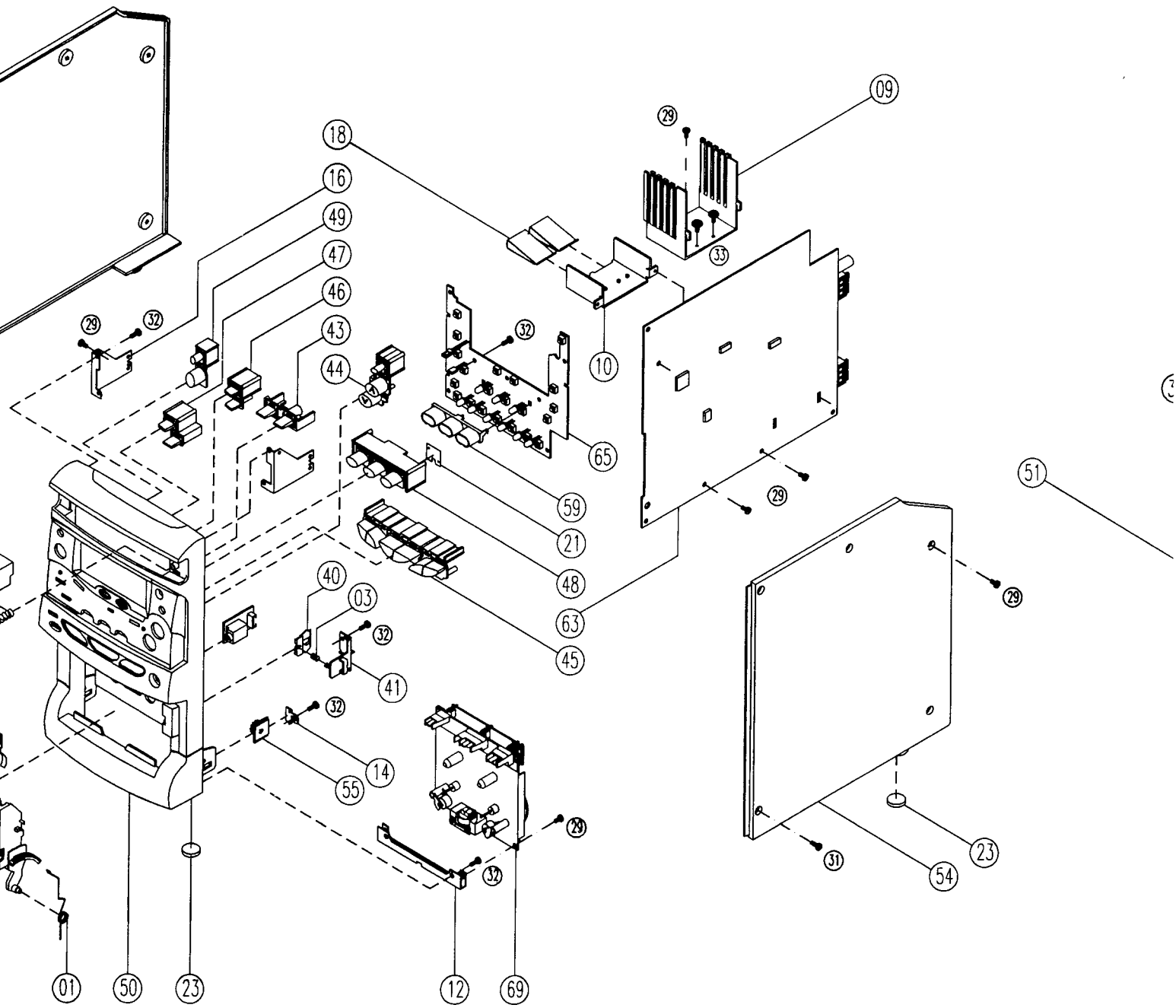
86	4822 528 81464	DRIVE PINION
87	4822 528 81465	PULLEY
88,92,112	4822 325 60379	DAMPING GROMMET
89	4822 276 13222	SWITCH
93	4822 444 60816	COVER PLATE
96,97,98,99	4822 325 80511	ORNAMENTAL TULE
101	4822 444 50679	SLIDER
102	4822 358 31168	BELT
103	4822 691 30278	CDM12.1
104,105,106,107	4822 325 50215	SUSPENSION
108	4822 402 61412	CLAMPER ASSY
109	4822 464 50895	SUBCHASSIS
111	4822 361 21492	MOTOR

EXPLODED VIEW DIAGRAM - MAIN ASSEMBLY



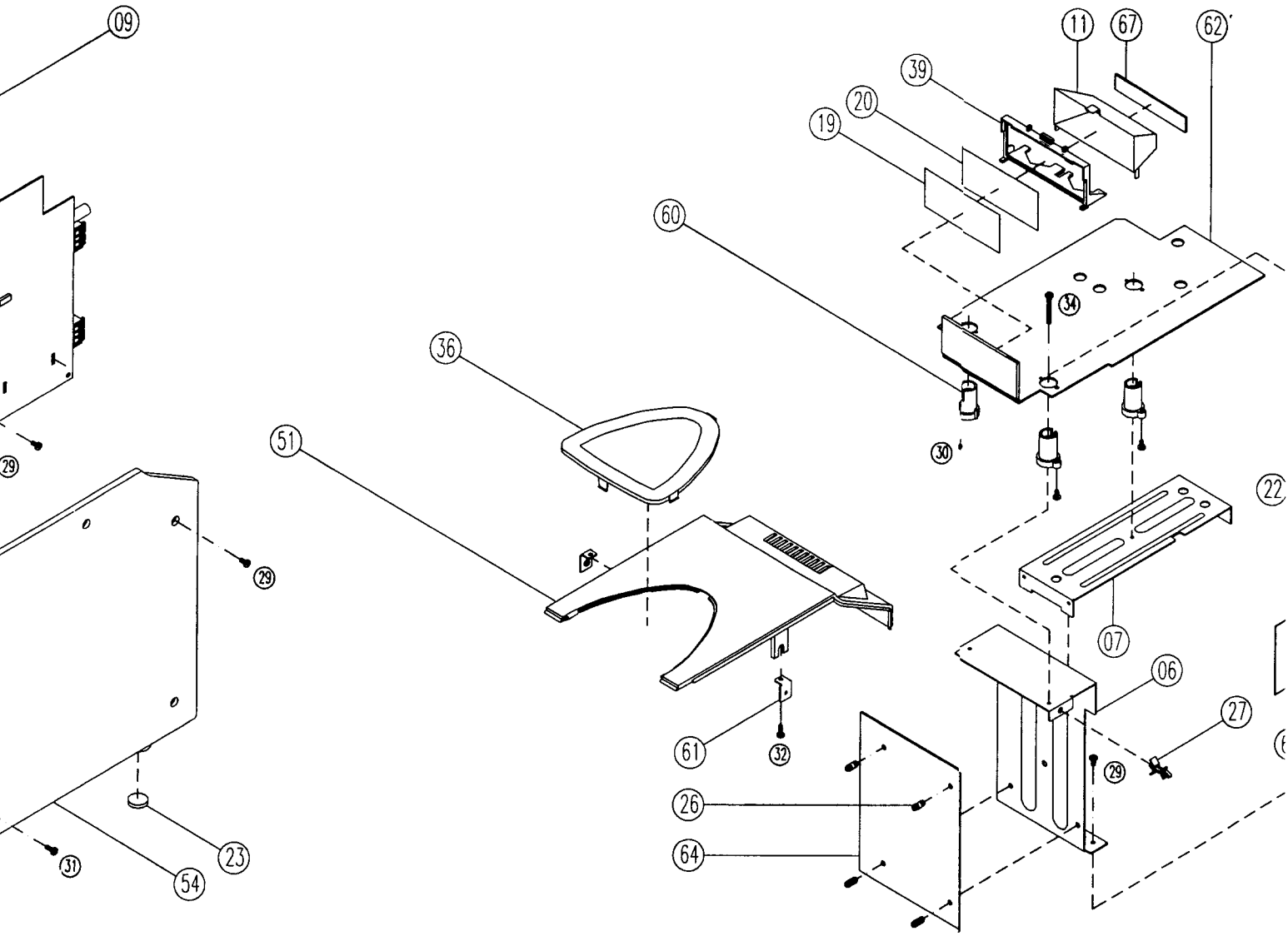
MECHANICAL PARTS LIST

1	4822 492 11455	CASS. TORSI
2	4822 492 11456	COMPRESS S
3	4822 492 11457	COMPRESS S
8	4822 492 11458	CASSETTE T/
26	4822 462 10964	RUBBER FOC
28	4822 325 60282	STRAIN RELI
37	4822 450 10383	CASSETTE W
38	4822 450 10382	CD WINDOW
38	4822 450 10384	DISPLAY LEN
40	4822 402 10795	LATCHING C/



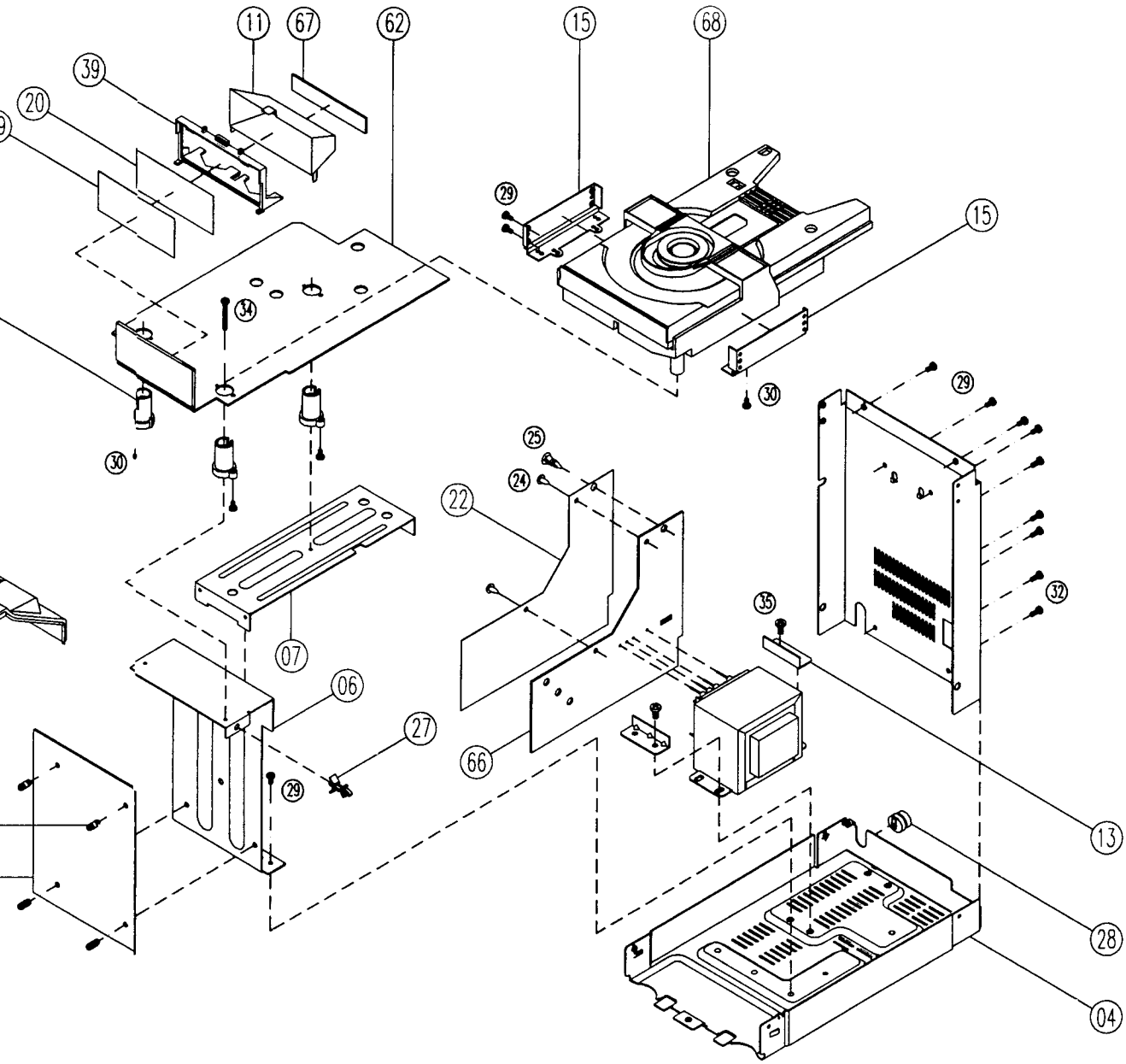
MECHANICAL PARTS LIST

1	4822 492 11455	CASS. TORSION SPRING
2	4822 492 11456	COMPRESS SPRING-CD OPEN
3	4822 492 11457	COMPRESS SPRING-EJECT CAM
8	4822 492 11458	CASSETTE TAPE SPRING
26	4822 462 10964	RUBBER FOOT 16X3
28	4822 325 60282	STRAIN RELIEF SR-4N-4
37	4822 450 10383	CASSETTE WINDOW
38	4822 450 10382	CD WINDOW
38	4822 450 10384	DISPLAY LENS
40	4822 402 10795	LATCHING CAM
41	4822 256 10392	LATCHING CAM
42	4822 410 11322	CD OPEN BUTT(
43	4822 410 11323	CLOCK/TIMER B
44	4822 410 11324	RDS/VOLUME BU
45	4822 410 11325	PLAY/F.F/REWIN
46	4822 410 11326	RECORD/PROGI
47	4822 410 11327	DBB/DSC BUTTC
48	4822 410 11328	SOURCE BUTTC
49	4822 410 11329	POWER/DEMO E
50	4822 459 04697	FRONT CABINET



41	4822 256 10392	LATCHING CAM HOLDER
42	4822 410 11322	CD OPEN BUTTON
43	4822 410 11323	CLOCK/TIMER BUTTON
44	4822 410 11324	RDS/VOLUME BUTTON
45	4822 410 11325	PLAY/F.F/REWIND BUTTON
46	4822 410 11326	RECORD/PROGRAM BUTTON
47	4822 410 11327	DBB/DSC BUTTON
48	4822 410 11328	SOURCE BUTTON
49	4822 410 11329	POWER/DEMO BUTTON
50	4822 459 04697	FRONT CABINET

51	4822 442 01047	TOP CABINET
52	4822 426 10515	CONTROL PANEL
55	4822 529 10322	DAMPER ASSY
56	4822 443 10775	CD DOOR
57	4822 443 10776	CASSETTE DOOR
58	4822 443 10777	TECHNICAL DOOR
60	4822 256 10393	CD MECHANISM HOLDER
69	4822 691 10623	MECHANISM CRH44-17



442 01047	TOP CABINET
426 10515	CONTROL PANEL
529 10322	DAMPER ASSY
443 10775	CD DOOR
443 10776	CASSETTE DOOR
443 10777	TECHNICAL DOOR
256 10393	CD MECHANISM HOLDER
691 10623	MECHANISM CRH44-17

OTHERS AND ACCESSORIES

4822 459 11086	PHILIPS NAME PLATE
4822 736 15585	INSTRUCTION BOOK (/22/25)
4822 736 15655	INSTRUCTION BOOK (/21/30)
4822 445 10679	SPEAKER BOX SET
4822 303 14066	FM AERIAL
4822 219 10341	REMOTE CONTROL RC078
4822 303 14064	AM LOOP ANT.

ELECTRICAL PARTSLIST

PANEL BOARD

LED100	4822 130 10976	LED L-59EGW RED/GRN
LED101	4822 130 10976	LED L-59EGW RED/GRN
LED102	4822 130 10976	LED L-59EGW RED/GRN
LED103	4822 130 10977	LED L-53SGT GREEN
LED104	4822 130 10977	LED L-53SGT GREEN
LED105	4822 130 10977	LED L-53SGT GREEN
LED106	4822 130 10977	LED L-53SGT GREEN
LED107	4822 130 10977	LED L-53SGT GREEN
LED108	4822 130 10977	LED L-53SGT GREEN
LED109	4822 130 10978	LED L-113SRC RED
LED110	4822 130 10979	LED L-1034ID RED
LED111	4822 130 10981	LED L-113SGC GREEN

Q100	4822 130 10982	2SA1037AK-R
Q101	4822 130 10982	2SA1037AK-R
Q102	4822 130 10982	2SA1037AK-R
Q103	4822 130 10982	2SA1037AK-R
Q104	4822 130 10982	2SA1037AK-R
Q105	4822 130 10982	2SA1037AK-R
Q106	4822 130 10982	2SA1037AK-R

- MISCELLANEOUS -

	4822 276 13893	TACT SWITCH
IR100	4822 130 10165	IR RECEIVER GP1U28XP

PREAMP BOARD

D202	4822 130 10869	RB441Q
D200	4822 130 30621	1N4148
ZD201	4822 130 10968	ZENER 4.3V 0.5W

Q200	4822 130 61188	DTC144TS
Q204	4822 130 10696	2SC3330U
Q205	4822 130 42306	2SD882Q
Q206	4822 130 60588	DTC114ES
Q207	4822 130 10696	2SC3330U
Q209	4822 130 10974	2SB1240Q
Q211	4822 130 61188	DTC144TS
Q212	4822 130 10985	DTC343TS
Q213	4822 130 10985	DTC343TS
Q214	4822 130 10974	2SB1240Q
Q215	4822 130 60644	9014C
Q216	4822 130 42306	2SD882Q
Q217	4822 130 60644	9014C
Q218	4822 130 60588	DTC114ES
Q219	4822 130 60588	DTC114ES
U200	4822 209 32082	TA8142AP
U201	4822 209 61667	UPC1330HA
IC200	4822 209 32659	BA4558

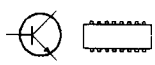
- MISCELLANEOUS -

VR206	4822 101 11801	TRIM VR 3K
R209	4822 117 12801	FUSIBLE RES 10R 0.25W
L200	4822 157 11371	47UH
L201	4822 157 11371	47UH
L202	4822 157 11371	47UH
L203	4822 157 11364	36MH
L204	4822 157 11364	36MH
U202	4822 157 11365	BIAS OSC COIL

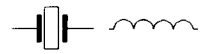
ELECTRICAL PARTSLIST

MAIN BOARD

D501	4822 130 30621	1N4148
D502	4822 130 30621	1N4148
D503	5322 130 30684	1N4002RL
D504	5322 130 30684	1N4002RL
D505	5322 130 30684	1N4002RL
D506	5322 130 30684	1N4002RL
D507	5322 130 30684	1N4002RL
D508	5322 130 30684	1N4002RL
D509	5322 130 30684	1N4002RL
D510	5322 130 30684	1N4002RL
VD500	4822 130 81197	KV1236Z
VD501	4822 130 81197	KV1236Z
Z502	4822 130 10971	ZENER 9.1V / 0.5W
ZN500	4822 130 10972	ZENER 12V / 0.5W
ZN501	4822 130 10973	ZENER 11V / 0.5W



Q502	4822 130 10696	2SC3330U
Q507	4822 130 61931	2SC2999D/E
Q508	4822 130 10696	2SC3330U
Q509	4822 130 10985	DTC343TS
Q510	4822 130 10985	DTC343TS
Q511	4822 130 10696	2SC3330U
Q512	4822 130 10974	2SB1240Q
Q513	4822 130 10974	2SB1240Q
Q514	4822 130 10697	2SA1317U
Q515	4822 130 60644	9014C
Q516	4822 130 10975	9018G
Q518	4822 130 60644	9014C
Q519	4822 130 10696	2SC3330U
Q521	4822 130 63585	2SD2012
Q522	4822 130 60588	DTC114ES
Q530	4822 130 10697	2SA1317U
Q531	4822 130 42306	2SD882Q
IC500	4822 209 15777	LA1832M
IC501	4822 209 32659	BA4558
IC502	4822 209 73954	NJM7912A
IC503	4822 209 83824	NJM7805FA
IC504	4822 209 15778	LC72131M
IC505	4822 209 31981	SAA6579T
IC506	4822 210 10782	ENV17297G1
IC508	4822 209 15784	LC75394NE
IC509	4822 209 15785	LA4450
IC511	4822 209 32676	NJM7808FA



BPF500	4822 153 70066	B.P.F. GFMB3
CF500	4822 242 80258	SFE10,7MS2-A-TF21
CF502	4822 242 80258	SFE10,7MS2-A-TF21
CF501	4822 242 10789	AHCFM2-450BL
IFT500	4822 157 11373	IFT YEL
IFT502	4822 157 11363	OSC COIL RED
L500	4822 157 11369	AM ANT. COIL
L502	4822 157 11371	47UH
L503	4822 157 11371	47UH
L504	4822 157 11362	CB6-300
L505	4822 157 11362	CB6-300
LPF500	4822 157 11374	MPX FILTER
LPF501	4822 157 11374	MPX FILTER
X500	4822 242 81248	CSB456F15
X503	4822 242 10791	CRYSTAL 4.332MHZ
X504	4822 242 10792	CRYSTAL 7.2MHZ
X505	4822 242 10793	CDA10.7MG43-A

- MISCELLANEOUS -

R588	4822 117 12799	FUSIBLE RST 100R 0.25W
VC500	4822 125 11099	TRIM CAP 10PF
CON500	4822 265 11047	ANTENNA SOCKET
SPK500	4822 265 11048	SPEAKER SOCKET

ELECTRICAL PARTSLIST

CD BOARD

D400	4822 130 30621	1N4148
D401	4822 130 30621	1N4148
D406	4822 130 10869	RB441Q
D407	4822 130 10869	RB441Q
D408	4822 130 30621	1N4148
D409	4822 130 30621	1N4148
D410	4822 130 30621	1N4148
D600	4822 130 30621	1N4148
ZD401	4822 130 10621	ZENER MTZJ2.2B
ZD402	4822 130 10967	ZENER 5.1V / 0.5W
ZD403	4822 130 10621	ZENER MTZJ2.2B

IC200	4822 209 15787	LC867248
IC203	4822 209 30193	LB1641
IC204	4822 209 15227	LA9240M
IC205	4822 209 15773	LC78622E
IC206	4822 209 15786	LA6541D
Q403	4822 130 60644	9014C
Q404	4822 130 10974	2SB1240Q
Q405	4822 130 60644	9014C
Q406	4822 130 10974	2SB1240Q
Q407	4822 130 10697	2SA1317U
Q408	4822 130 10697	2SA1317U

- MISCELLANEOUS -

LCD200	4822 135 00138	HLC7112-012410
L401	4822 157 11371	47UH
X400	4822 242 10794	16.9344MHZ 49U
X401	4822 242 10795	DMC-AT32.768KHZ
X402	4822 242 71508	CSA6,00MG

POWER BOARD AND MISCELLANEOUS

- MISCELLANEOUS -

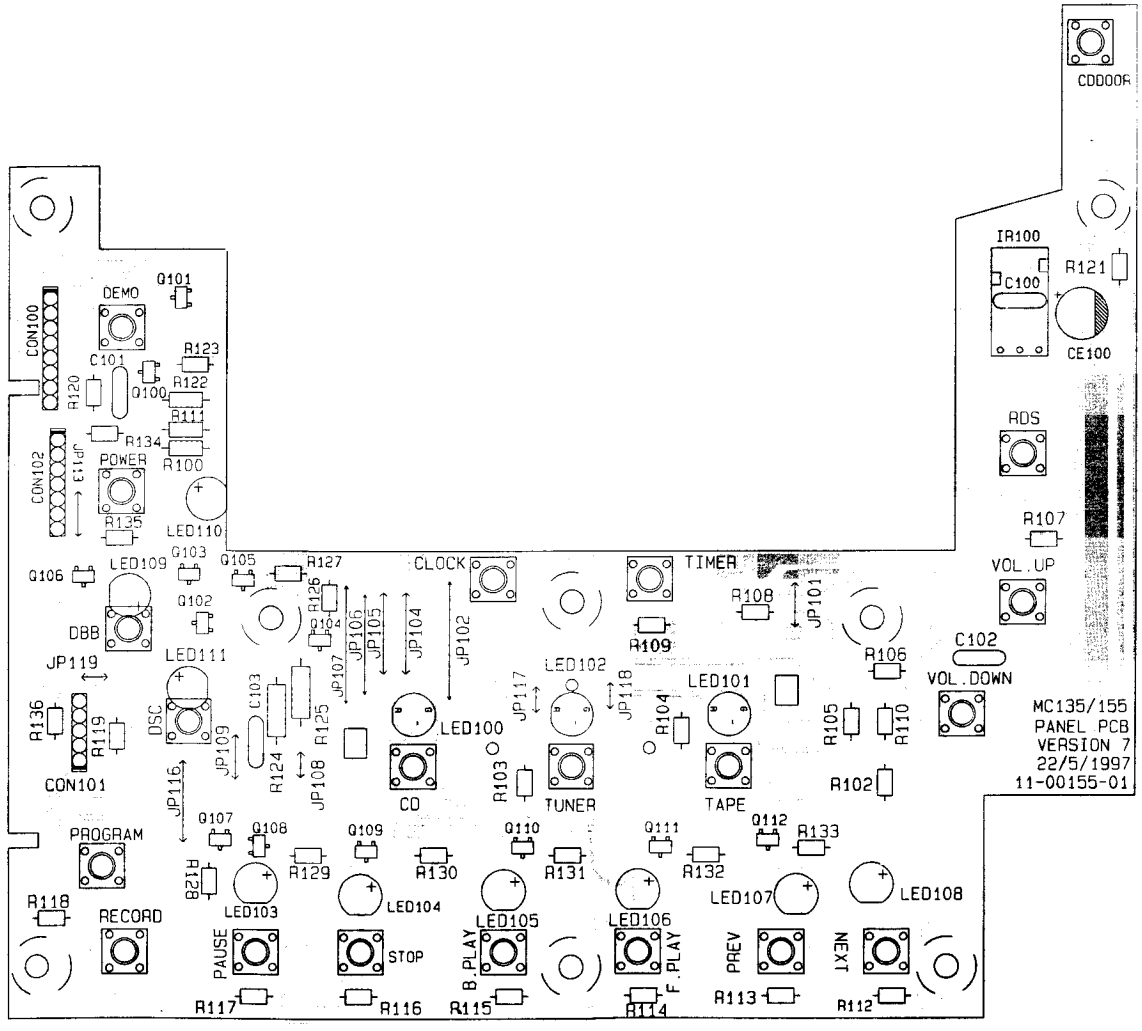
CON601	4822 265 11049	HEADPHONE JACK
L301	4822 134 10099	LAMP 5.5V 100MA
L302	4822 134 10099	LAMP 5.5V 100MA
L303	4822 134 10099	LAMP 5.5V 100MA
L304	4822 134 10099	LAMP 5.5V 100MA
L1	⚠ 4822 157 11372	LINE FILTER
	⚠ 4822 146 10842	TRANSFORMER 230V
	⚠ 4822 146 10865	TRANSFORMER 120/230V
	⚠ 4822 146 10864	TRANSFORMER 240V
	⚠ 4822 273 10342	VOLTAGE SWITCH
F2	⚠ 4822 252 11258	FUSE 2A 250V
F3	⚠ 4822 252 11252	FUSE 1.6A 250V
F4	⚠ 4822 252 11252	FUSE 1.6A 250V

PANEL BOARD - LAYOUT DIAGRAM

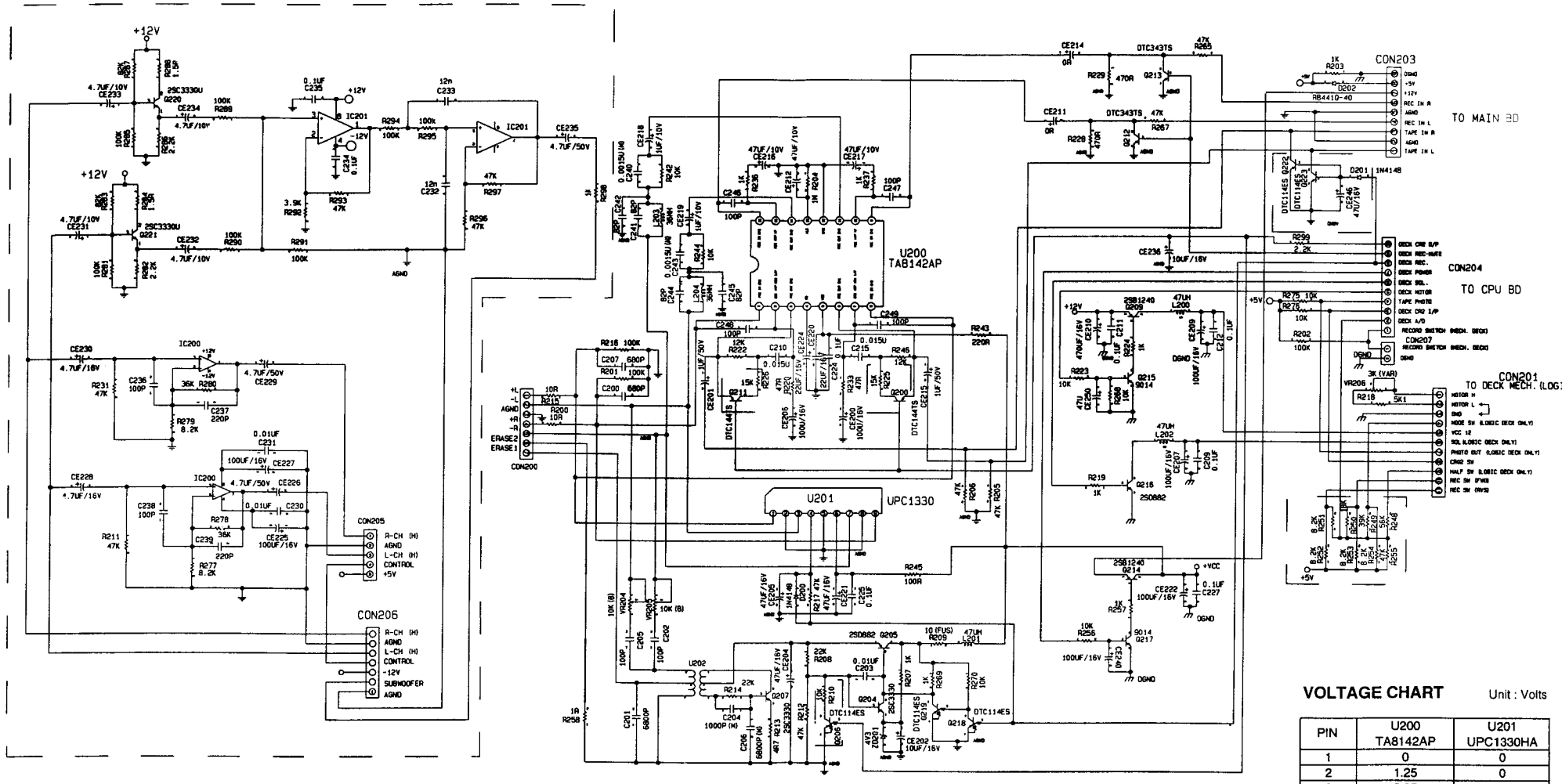
CON404
R-CH
AGND
L-CH
12V
5V
GND

CON403
DK-CR2-0
REC-MUTE
DECK-REC
DECK-POW
DECK-SOL
DECK-MOT
TAPE-PHO
DECK-CR2
DECK-A/D
MC135

J 202
KEY1
KEY2
5V
DGN
REMOTE



PREAMP BOARD - CIRCUIT DIAGRAM



VOLTAGE CHART

Unit : Volts

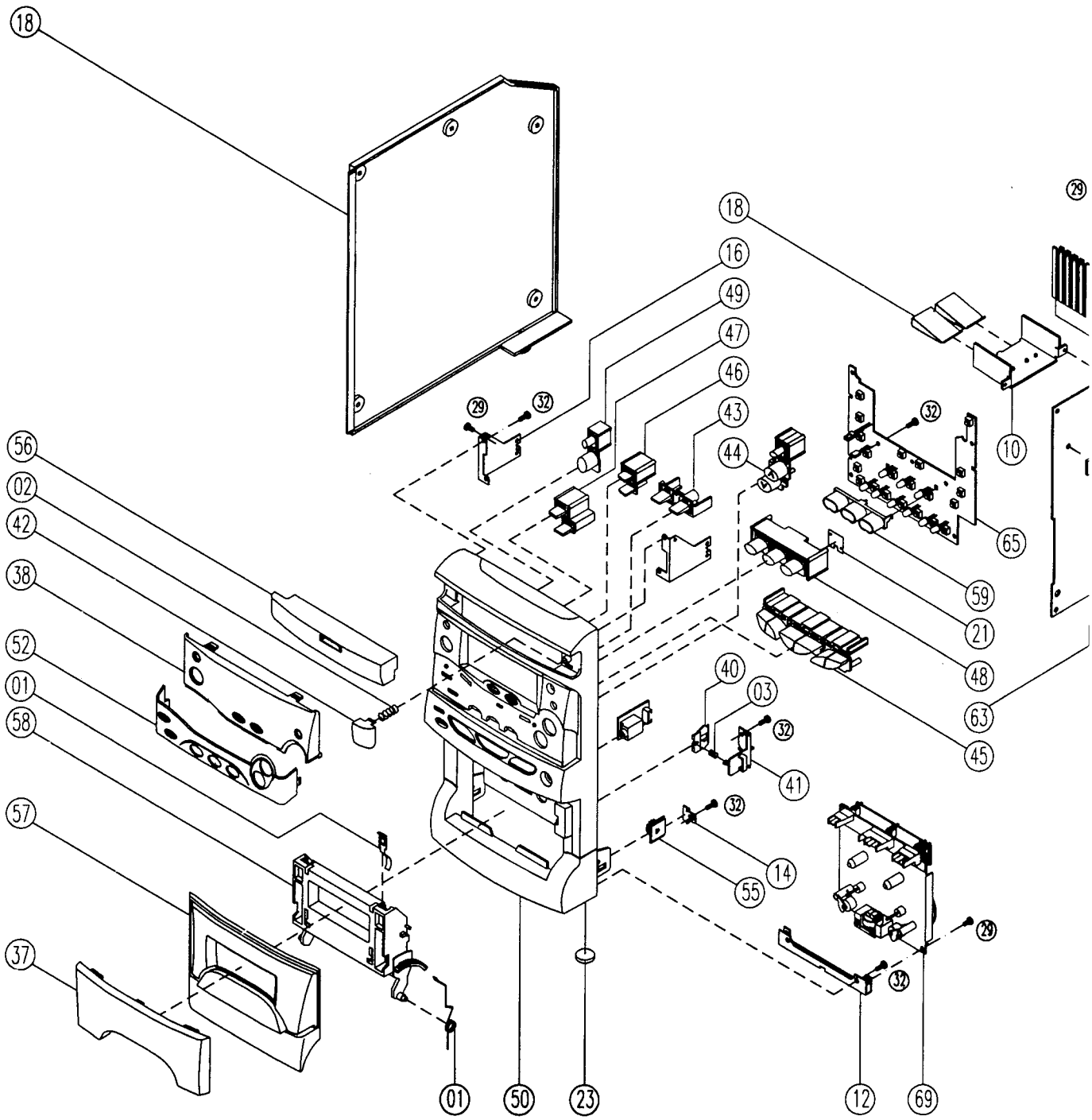
PIN	IC200 BA4558N	IC201 BA4558N
1	0.05	0.06
2	0	0
3	0	0
4	-12.09	-12.08
5	0	0.06
6	0	0
7	0.05	0.06
8	12.35	12.45

VOLTAGE CHART

Unit : Volts

PIN	U200 TA8142AP	U201 UPC1330HA
1	0	0
2	1.25	0
3	2.05	0
4	1.43	0
5	10.21	0
6	2.05	11.69
7	1.25	0
8	0	
9	0	
10	1.25	
11	2.21	
12	0	
13	0	
14	2.22	
15	1.25	
16	0	

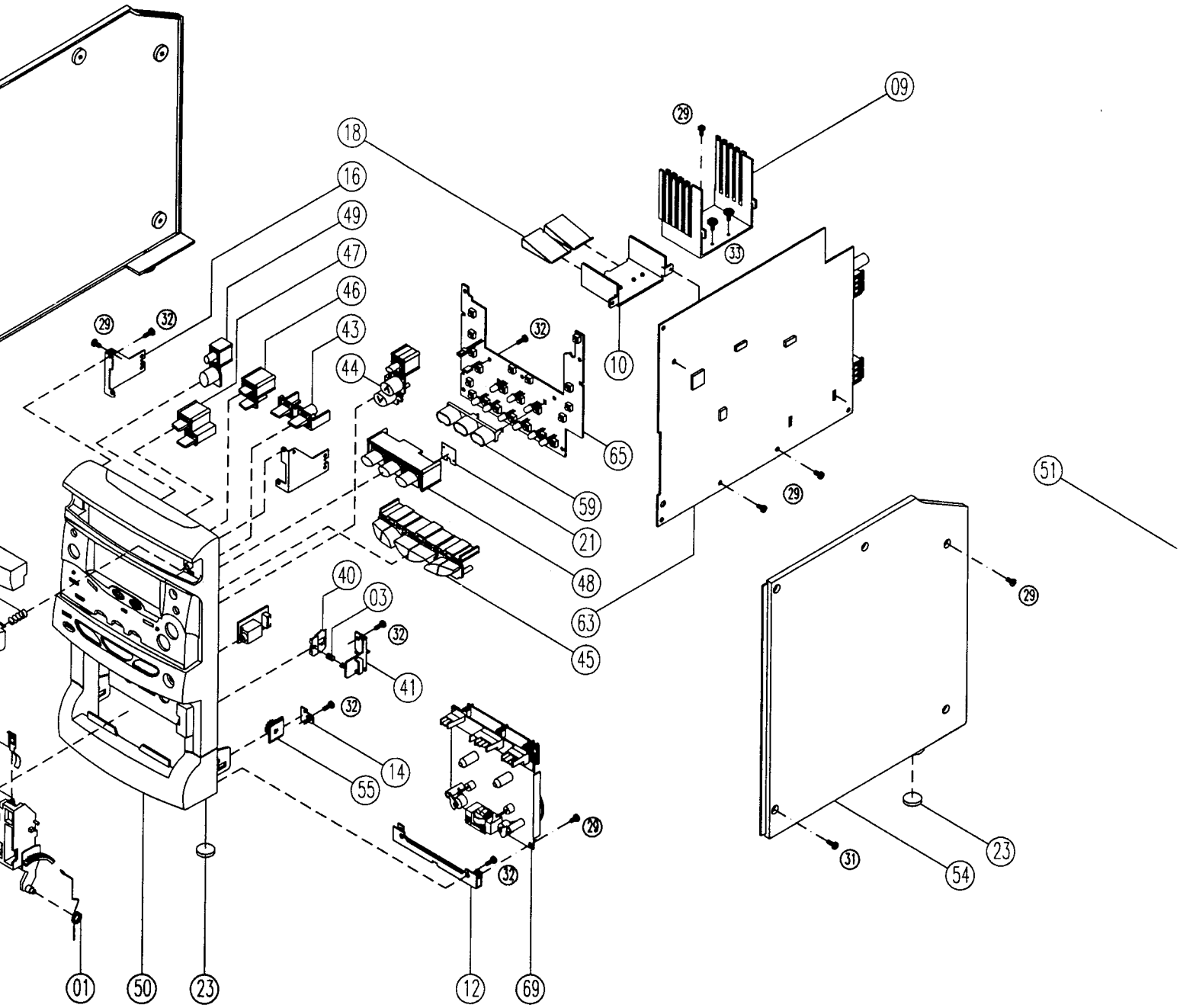
EXPLODED VIEW DIAGRAM - MAIN ASSEMBLY



MECHANICAL PARTS LIST

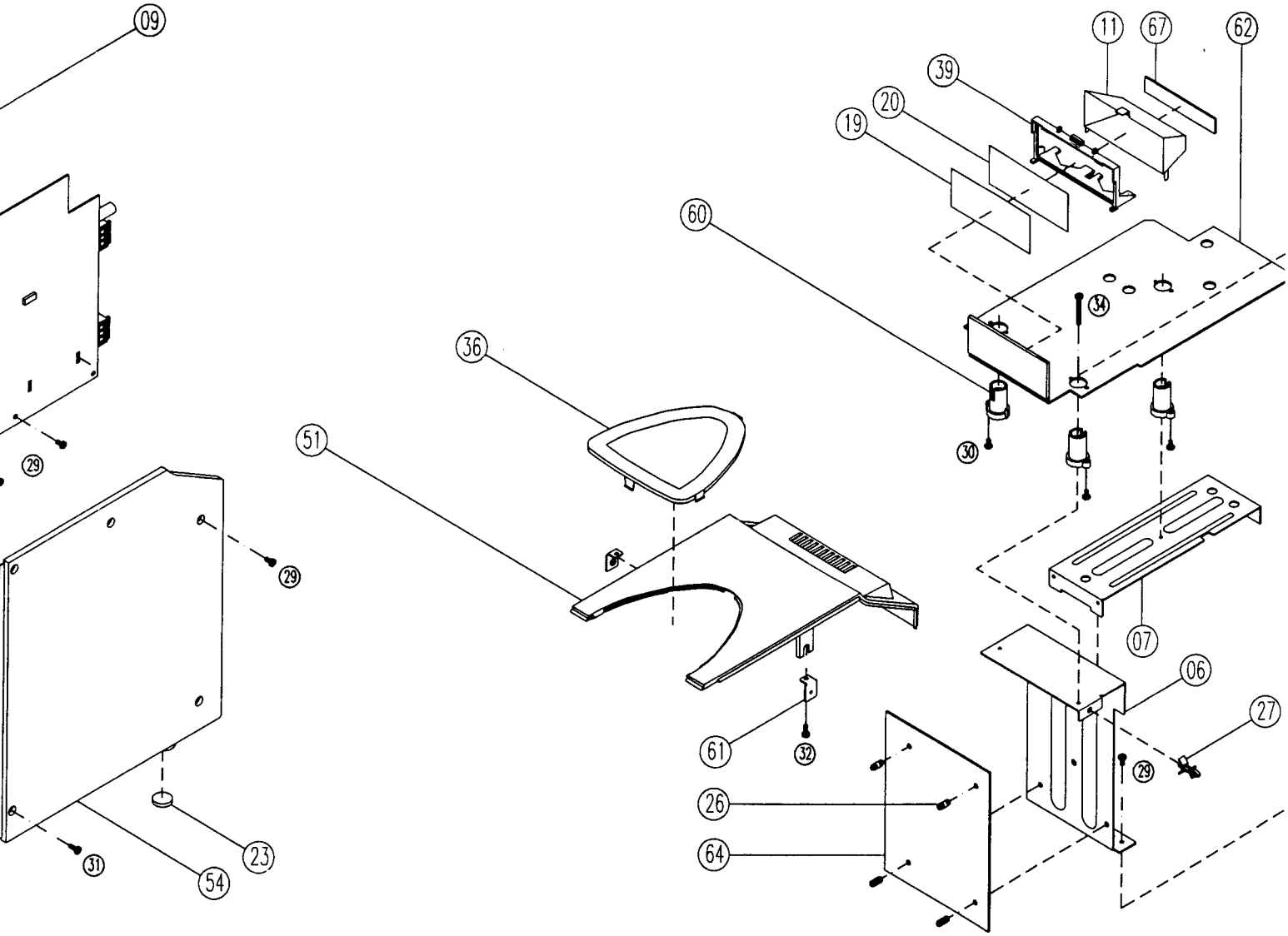
1	4822 492 11455	CASS. TORSION SPRING
2	4822 492 11456	COMPRESS SPRING-CD O
3	4822 492 11457	COMPRESS SPRING-EJEC
8	4822 492 11458	CASSETTE TAPE SPRING
26	4822 462 10964	RUBBER FOOT 16X3
28	4822 325 60282	STRAIN RELIEF SR-4N-4
37	4822 450 10383	CASSETTE WINDOW
38	4822 450 10382	CD WINDOW
38	4822 450 10384	DISPLAY LENS
40	4822 402 10795	LATCHING CAM

SEMBLY

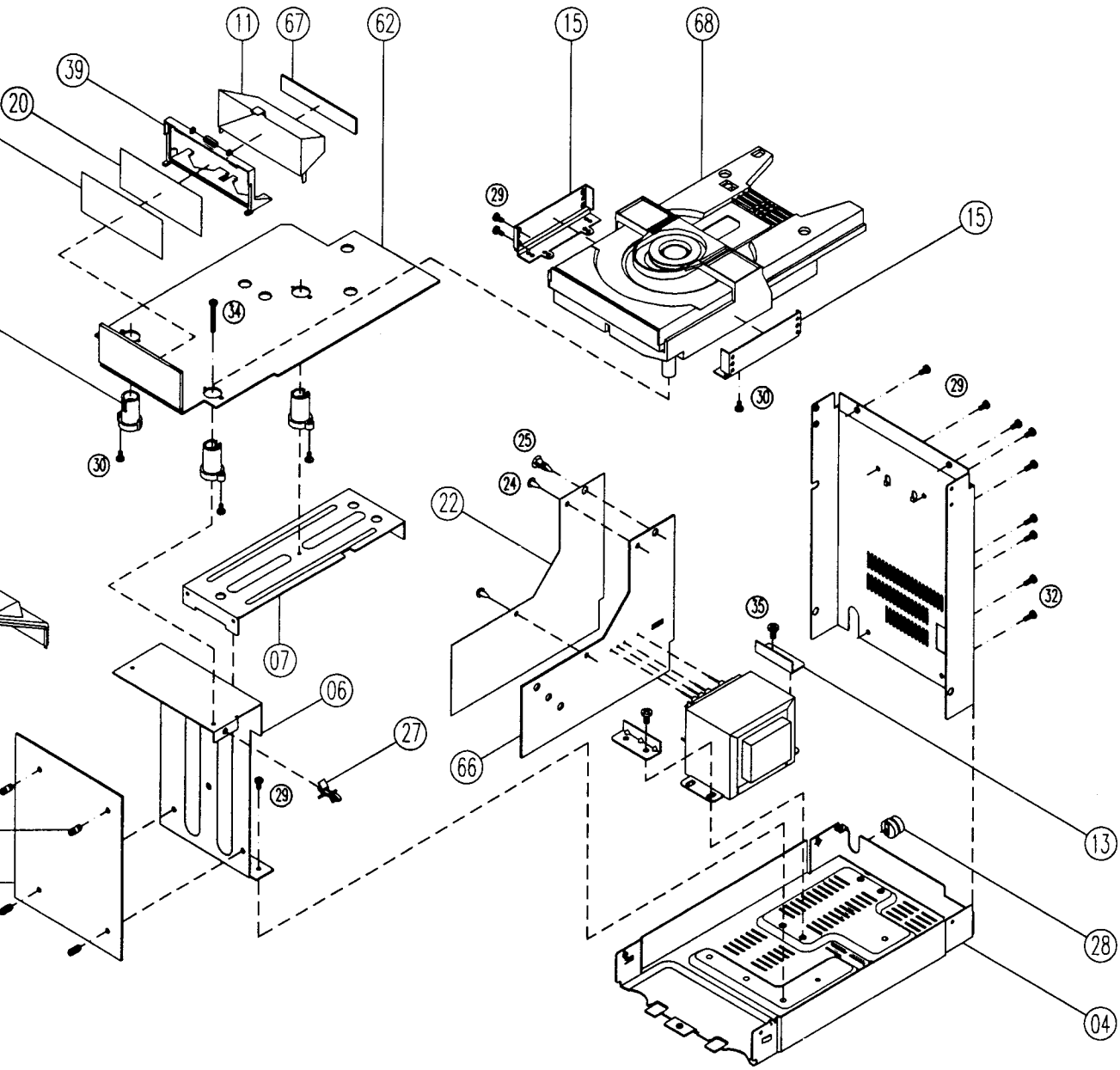


MECHANICAL PARTS LIST

1	4822 492 11455	CASS. TORSION SPRING	41	4822 256 10392	LATCHING CAI
2	4822 492 11456	COMPRESS SPRING-CD OPEN	42	4822 410 11322	CD OPEN BUT
3	4822 492 11457	COMPRESS SPRING-EJECT CAM	43	4822 410 11323	CLOCK/TIMER
8	4822 492 11458	CASSETTE TAPE SPRING	44	4822 410 11324	RDS/VOLUME I
26	4822 462 10964	RUBBER FOOT 16X3	45	4822 410 11325	PLAY/F.F/REW
28	4822 325 60282	STRAIN RELIEF SR-4N-4	46	4822 410 11326	RECORD/PRO(
37	4822 450 10383	CASSETTE WINDOW	47	4822 410 11327	DBB/DSC BUTT
38	4822 450 10382	CD WINDOW	48	4822 410 11328	SOURCE BUTT
38	4822 450 10384	DISPLAY LENS	49	4822 410 11329	POWER/DEMO
40	4822 402 10795	LATCHING CAM	50	4822 459 04697	FRONT CABINE



41	4822 256 10392	LATCHING CAM HOLDER
42	4822 410 11322	CD OPEN BUTTON
43	4822 410 11323	CLOCK/TIMER BUTTON
44	4822 410 11324	RDS/VOLUME BUTTON
45	4822 410 11325	PLAY/F.F/REWIND BUTTON
46	4822 410 11326	RECORD/PROGRAM BUTTON
47	4822 410 11327	DBB/DSC BUTTON
48	4822 410 11328	SOURCE BUTTON
49	4822 410 11329	POWER/DEMO BUTTON
50	4822 459 04697	FRONT CABINET
51	4822 442 01047	TOP CABINET
52	4822 426 10515	CONTROL PANEL
55	4822 529 10322	DAMPER ASSY
56	4822 443 10775	CD DOOR
57	4822 443 10776	CASSETTE DOOR
58	4822 443 10777	TECHNICAL DOOR
60	4822 256 10393	CD MECHANISM HOLDER
69	4822 691 10623	MECHANISM CRH44-17



42 01047	TOP CABINET
26 10515	CONTROL PANEL
29 10322	DAMPER ASSY
43 10775	CD DOOR
43 10776	CASSETTE DOOR
43 10777	TECHNICAL DOOR
56 10393	CD MECHANISM HOLDER
91 10623	MECHANISM CRH44-17

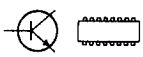
OTHERS AND ACCESSORIES

4822 459 11086	PHILIPS NAME PLATE
4822 736 15585	INSTRUCTION BOOK (/22/25)
4822 736 15655	INSTRUCTION BOOK (/21/30)
4822 445 10679	SPEAKER BOX SET
4822 303 14066	FM AERIAL
4822 219 10341	REMOTE CONTROL RC078
4822 303 14064	AM LOOP ANT.

ELECTRICAL PARTSLIST

PANEL BOARD

LED100	4822 130 10976	LED L-59EGW RED/GRN
LED101	4822 130 10976	LED L-59EGW RED/GRN
LED102	4822 130 10976	LED L-59EGW RED/GRN
LED103	4822 130 10977	LED L-53SGT GREEN
LED104	4822 130 10977	LED L-53SGT GREEN
LED105	4822 130 10977	LED L-53SGT GREEN
LED106	4822 130 10977	LED L-53SGT GREEN
LED107	4822 130 10977	LED L-53SGT GREEN
LED108	4822 130 10977	LED L-53SGT GREEN
LED109	4822 130 10978	LED L-113SRC RED
LED110	4822 130 10979	LED L-1034ID RED
LED111	4822 130 10981	LED L-113SGC GREEN



Q100	4822 130 10982	2SA1037AK-R
Q101	4822 130 10982	2SA1037AK-R
Q102	4822 130 10982	2SA1037AK-R
Q103	4822 130 10982	2SA1037AK-R
Q104	4822 130 10982	2SA1037AK-R
Q105	4822 130 10982	2SA1037AK-R
Q106	4822 130 10982	2SA1037AK-R
Q107	4822 130 10982	2SA1037AK-R
Q108	4822 130 10982	2SA1037AK-R
Q109	4822 130 10982	2SA1037AK-R
Q110	4822 130 10982	2SA1037AK-R
Q111	4822 130 10982	2SA1037AK-R
Q112	4822 130 10982	2SA1037AK-R

- MISCELLANEOUS -

	4822 276 13893	TACT SWITCH
IR100	4822 130 10165	IR RECEIVER GP1U28XP

PREAMP BOARD

D202	4822 130 10869	RB441Q
D200	4822 130 30621	1N4148
ZD201	4822 130 10968	ZENER 4.3V 0.5W

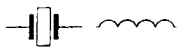
Q200	4822 130 61188	DTC144TS
Q204	4822 130 10696	2SC3330U
Q205	4822 130 42306	2SD882Q
Q206	4822 130 60588	DTC114ES
Q207	4822 130 10696	2SC3330U
Q209	4822 130 10974	2SB1240Q
Q211	4822 130 61188	DTC144TS
Q212	4822 130 10985	DTC343TS
Q213	4822 130 10985	DTC343TS
Q214	4822 130 10974	2SB1240Q
Q215	4822 130 60644	9014C
Q216	4822 130 42306	2SD882Q
Q217	4822 130 60644	9014C
Q218	4822 130 60588	DTC114ES
Q219	4822 130 60588	DTC114ES
U200	4822 209 32082	TA8142AP
U201	4822 209 61667	UPC1330HA
IC200	4822 209 32659	BA4558

- MISCELLANEOUS -

VR206	4822 101 11801	TRIM VR 3K
R209	4822 117 12801	FUSIBLE RES 10R 0.25W
L200	4822 157 11371	47UH
L201	4822 157 11371	47UH
L202	4822 157 11371	47UH
L203	4822 157 11364	36MH
L204	4822 157 11364	36MH
U202	4822 157 11365	BIAS OSC COIL

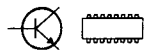
ELECTRICAL PARTSLIST

MAIN BOARD



BPF500	4822 153 70066	B.P.F. GFMB3
CF500	4822 242 80258	SFE10,7MS2-A-TF21
CF502	4822 242 80258	SFE10,7MS2-A-TF21
CF501	4822 242 10789	AHCFM2-450BL
IFT500	4822 157 11373	IFT YEL
IFT502	4822 157 11363	OSC COIL RED
L500	4822 157 11369	AM ANT. COIL
L502	4822 157 11371	47UH
L503	4822 157 11371	47UH
L504	4822 157 11362	CB6-300
L505	4822 157 11362	CB6-300
LPF500	4822 157 11374	MPX FILTER
LPF501	4822 157 11374	MPX FILTER
X500	4822 242 81248	CSB456F15
X503	4822 242 10791	CRYSTAL 4.332MHZ
X504	4822 242 10792	CRYSTAL 7.2MHZ
X505	4822 242 10793	CDA10.7MG43-A

D501	4822 130 30621	1N4148
D502	4822 130 30621	1N4148
D503	5322 130 30684	1N4002RL
D504	5322 130 30684	1N4002RL
D505	5322 130 30684	1N4002RL
D506	5322 130 30684	1N4002RL
D507	5322 130 30684	1N4002RL
D508	5322 130 30684	1N4002RL
D509	5322 130 30684	1N4002RL
D510	5322 130 30684	1N4002RL
D511	4822 130 30621	1N4148
D701	4822 130 30621	1N4148
D702	4822 130 30621	1N4148
D703	4822 130 30621	1N4148
D704	4822 130 30621	1N4148
D705	4822 130 30621	1N4148
D706	4822 130 30621	1N4148
VD500	4822 130 81197	KV1236Z
VD501	4822 130 81197	KV1236Z
Z502	4822 130 10971	ZENER 9.1V / 0.5W
ZN500	4822 130 10972	ZENER 12V / 0.5W
ZN501	4822 130 10973	ZENER 11V / 0.5W



Q502	4822 130 10696	2SC3330U
Q507	4822 130 61931	2SC2999D/E
Q508	4822 130 10696	2SC3330U
Q509	4822 130 10985	DTC343TS
Q510	4822 130 10985	DTC343TS
Q511	4822 130 10696	2SC3330U
Q512	4822 130 10974	2SB1240Q
Q513	4822 130 10974	2SB1240Q
Q514	4822 130 10697	2SA1317U
Q515	4822 130 60644	9014C
Q516	4822 130 10975	9018G
Q518	4822 130 60644	9014C
Q519	4822 130 10696	2SC3330U
Q521	4822 130 63585	2SD2012
Q522	4822 130 60588	DTC114ES
Q530	4822 130 10697	2SA1317U
Q531	4822 130 42306	2SD882Q
IC500	4822 209 15777	LA1832M
IC501	4822 209 32659	BA4558
IC502	4822 209 73954	NJM7912A
IC503	4822 209 83824	NJM7805FA
IC504	4822 209 15778	LC72131M
IC505	4822 209 31981	SAA6579T
IC506	4822 210 10782	ENV17297G1
IC508	4822 209 15784	LC75394NE
IC509	4822 209 15785	LA4450
IC511	4822 209 32676	NJM7808FA

- MISCELLANEOUS -

R588	4822 117 12799	FUSIBLE RST 100R 0.25W
VC500	4822 125 11099	TRIM CAP 10PF
CON500	4822 265 11047	ANTENNA SOCKET
SPK500	4822 265 11048	SPEAKER SOCKET

ELECTRICAL PARTSLIST

CD BOARD

D400	4822 130 30621	1N4148
D401	4822 130 30621	1N4148
D406	4822 130 10869	RB441Q
D407	4822 130 10869	RB441Q
D408	4822 130 30621	1N4148
D409	4822 130 30621	1N4148
D410	4822 130 30621	1N4148
D600	4822 130 30621	1N4148
ZD401	4822 130 10621	ZENER MTZJ2.2B
ZD402	4822 130 10967	ZENER 5.1V / 0.5W
ZD403	4822 130 10621	ZENER MTZJ2.2B

IC200	4822 209 15787	LC867248
IC203	4822 209 30193	LB1641
IC204	4822 209 15227	LA9240M
IC205	4822 209 15773	LC78622E
IC206	4822 209 15786	LA6541D
Q403	4822 130 60644	9014C
Q404	4822 130 10974	2SB1240Q
Q405	4822 130 60644	9014C
Q406	4822 130 10974	2SB1240Q
Q407	4822 130 10697	2SA1317U
Q408	4822 130 10697	2SA1317U

- MISCELLANEOUS -

LCD200	4822 135 00138	HLC7112-012410
L401	4822 157 11371	47UH
X400	4822 242 10794	16.9344MHZ 49U
X401	4822 242 10795	DMC-AT32.768KHZ
X402	4822 242 71508	CSA6,00MG

POWER BOARD AND MISCELLANEOUS

- MISCELLANEOUS -

CON601	4822 265 11049	HEADPHONE JACK
L301	4822 134 10099	LAMP 5.5V 100MA
L302	4822 134 10099	LAMP 5.5V 100MA
L303	4822 134 10099	LAMP 5.5V 100MA
L304	4822 134 10099	LAMP 5.5V 100MA
L1	⚠ 4822 157 11372	LINE FILTER
	⚠ 4822 146 10842	TRANSFORMER 230V
	⚠ 4822 146 10865	TRANSFORMER 120/230V
	⚠ 4822 146 10864	TRANSFORMER 240V
	⚠ 4822 273 10342	VOLTAGE SWITCH
F2	⚠ 4822 252 11258	FUSE 2A 250V
F3	⚠ 4822 252 11252	FUSE 1.6A 250V
F4	⚠ 4822 252 11252	FUSE 1.6A 250V